

Appl. No. 09/227,742; Filed: January 8, 1999
 Int. No. 0942.4770003; Group Art Unit: 1636
 Inventors: Bloom et al.; Tel: 202/371-2600
 Title: Method for Increasing Viability and Transformation
 Efficiency of Bacteria During Storage at Low Temperatures

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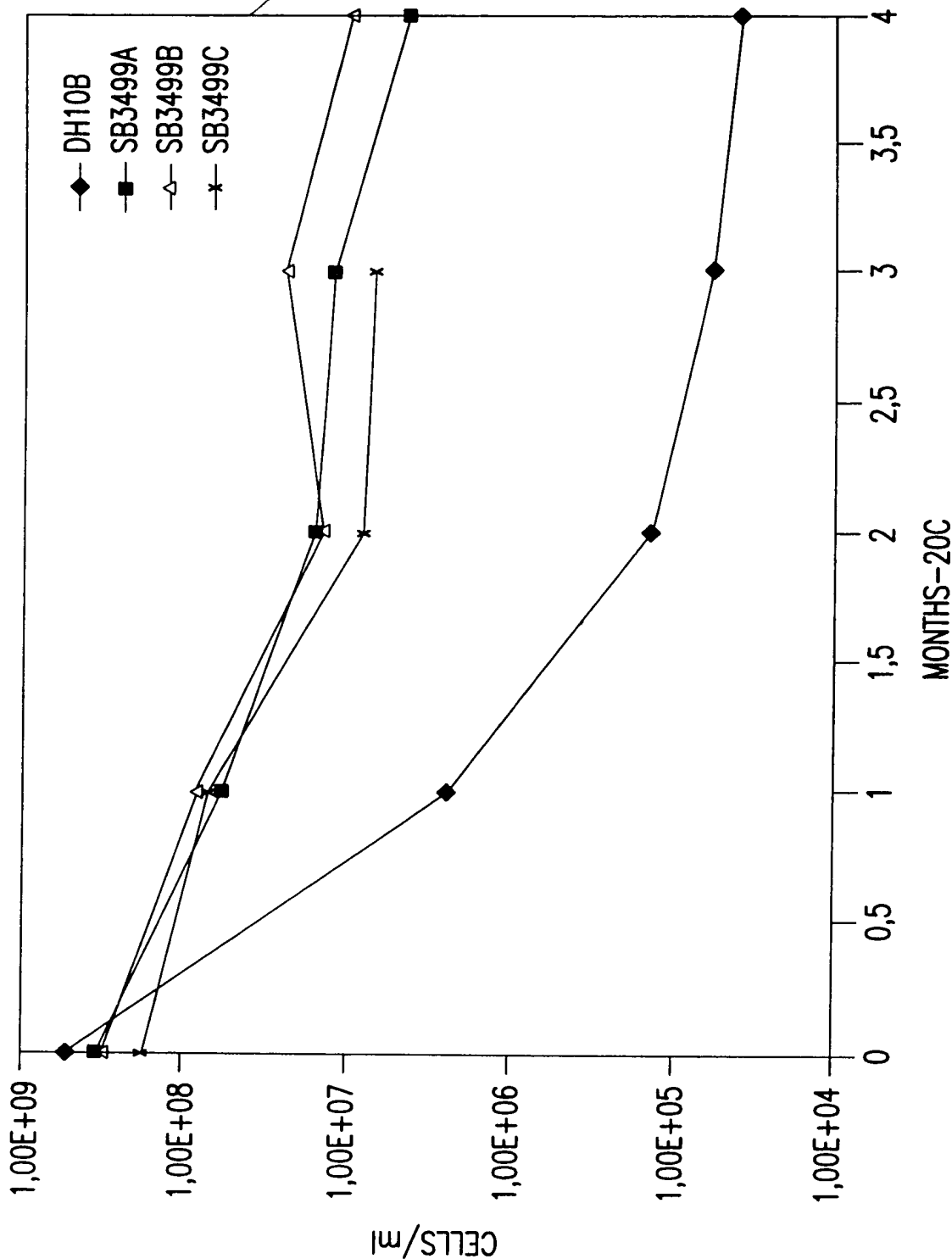


FIG.1



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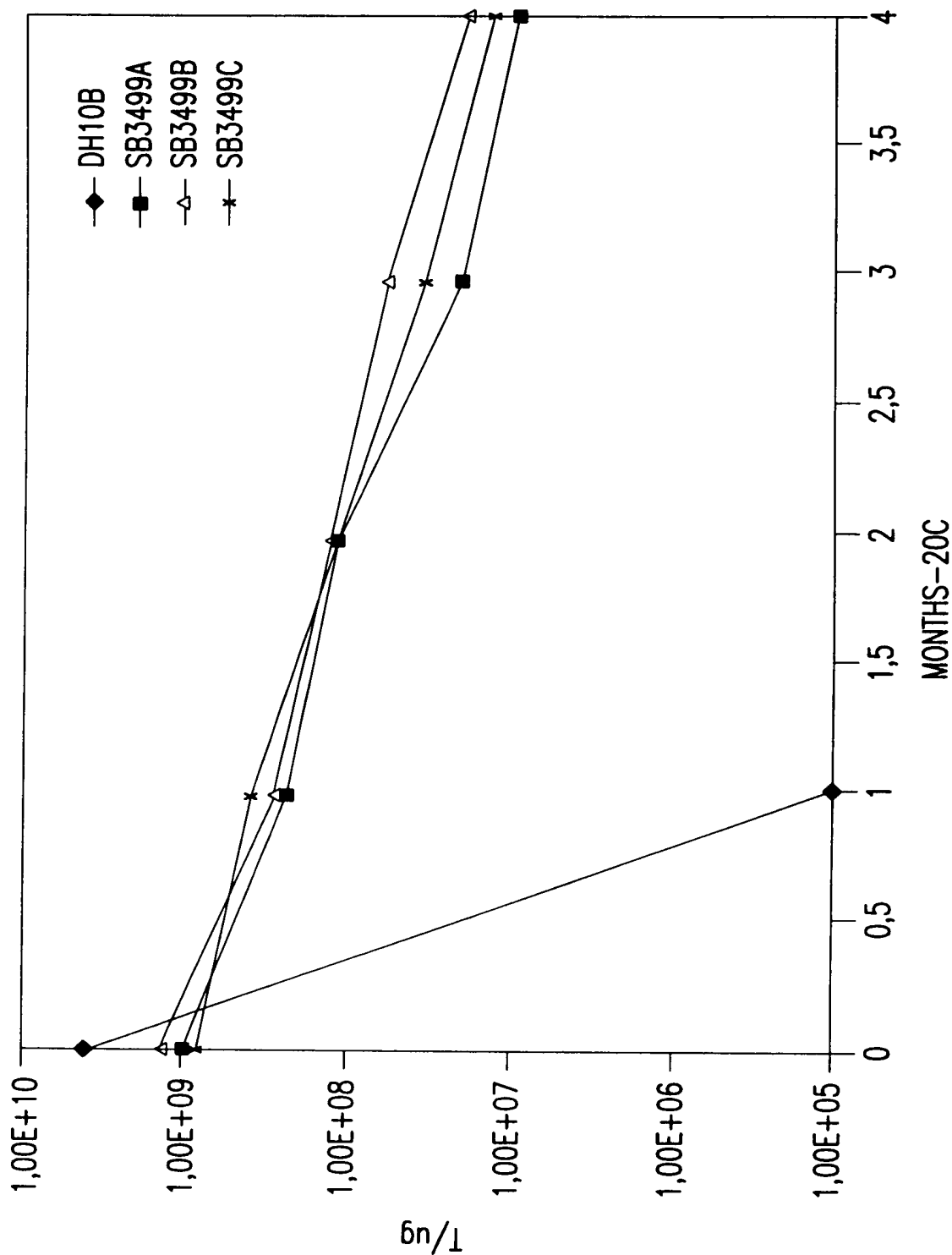


FIG.2



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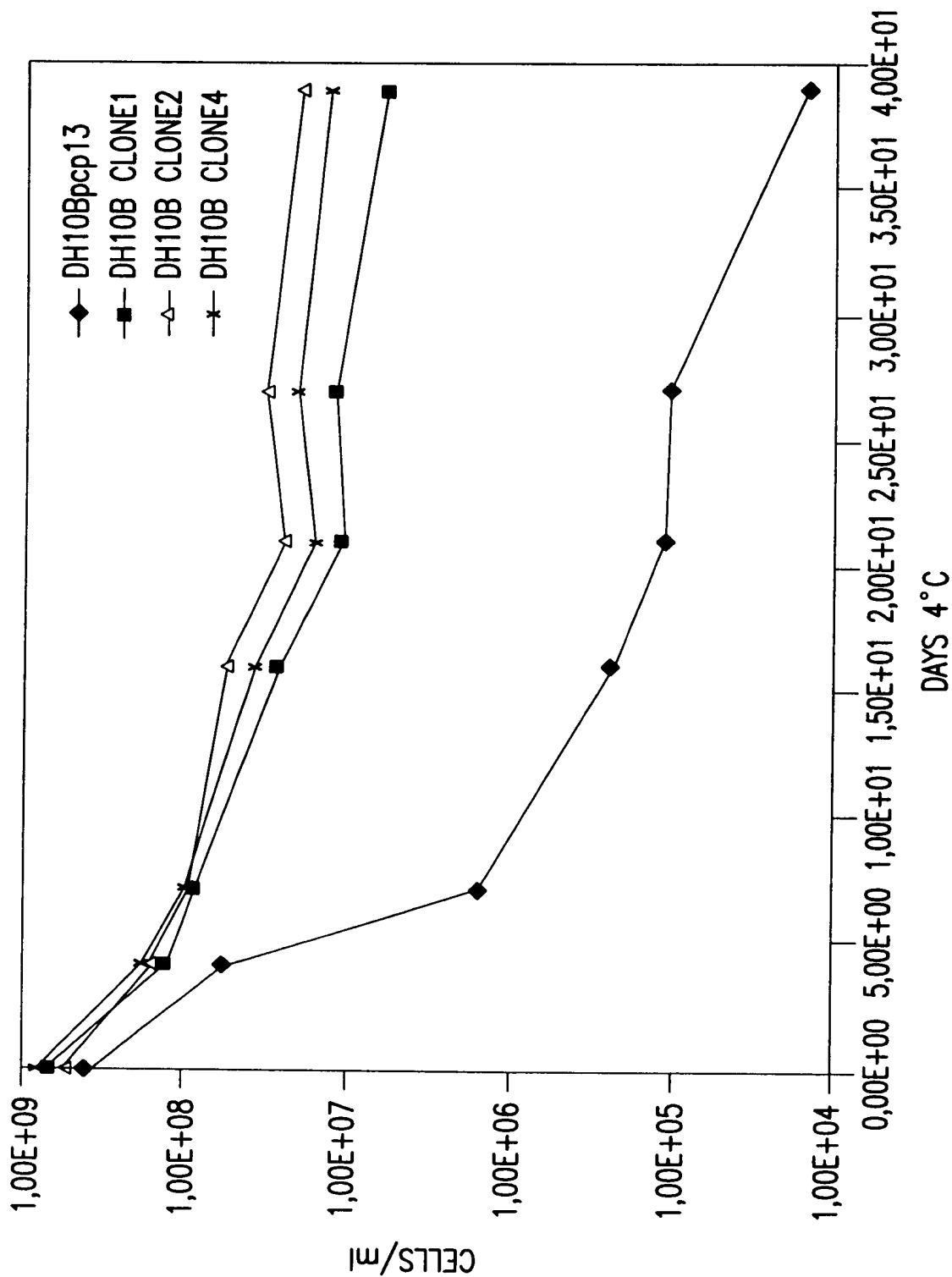


FIG.3



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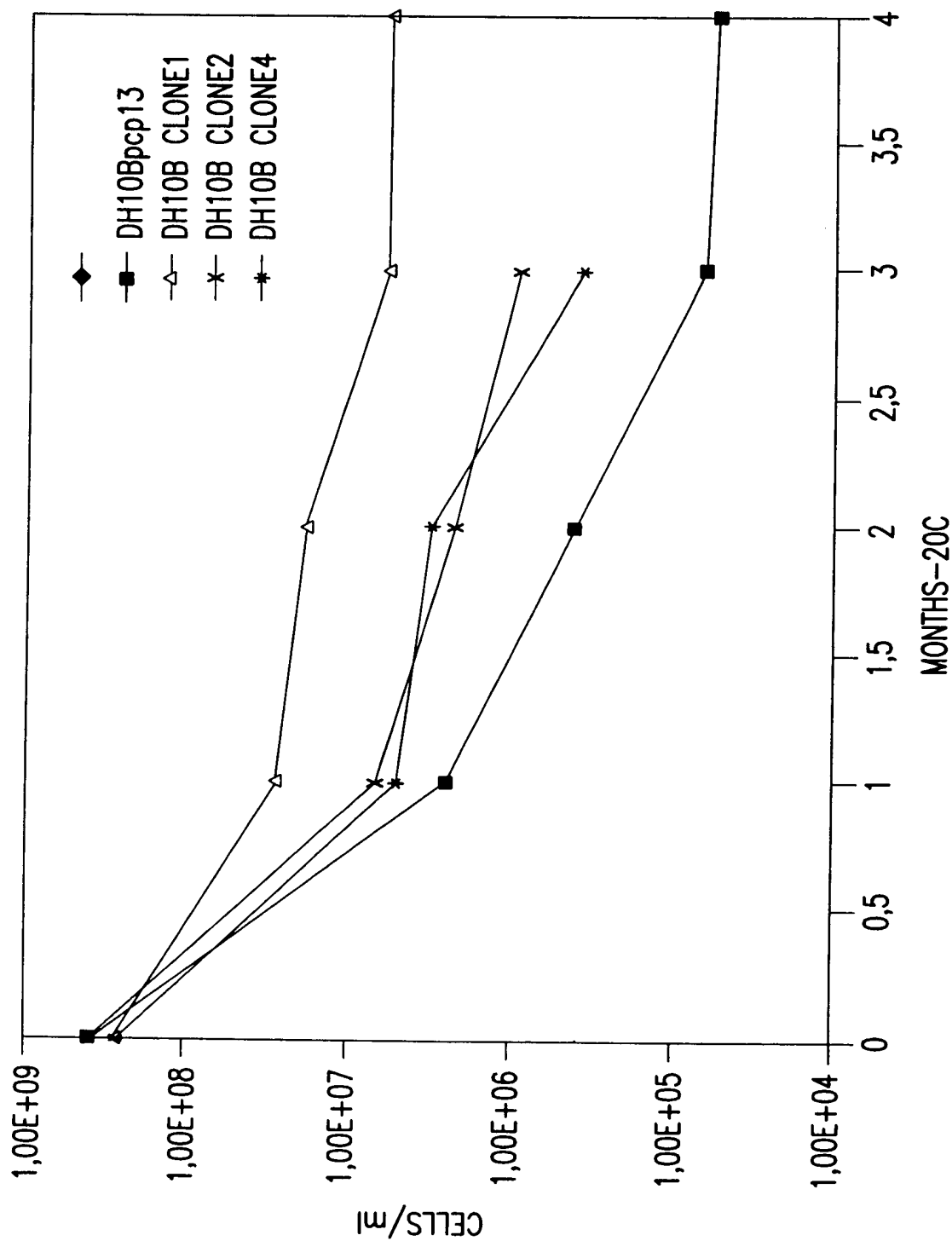
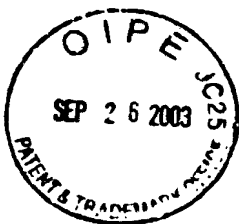


FIG. 4A



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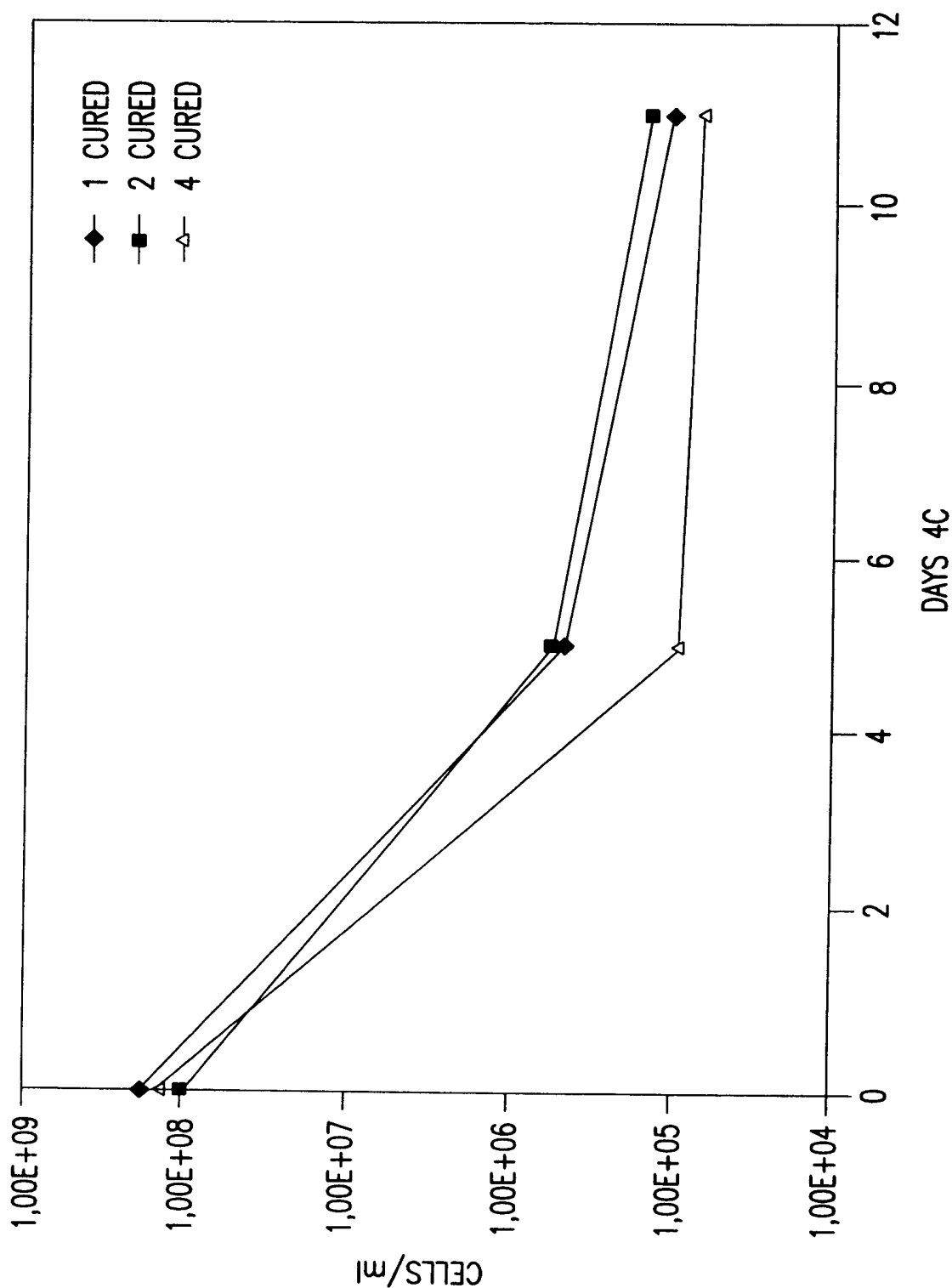


FIG.4B



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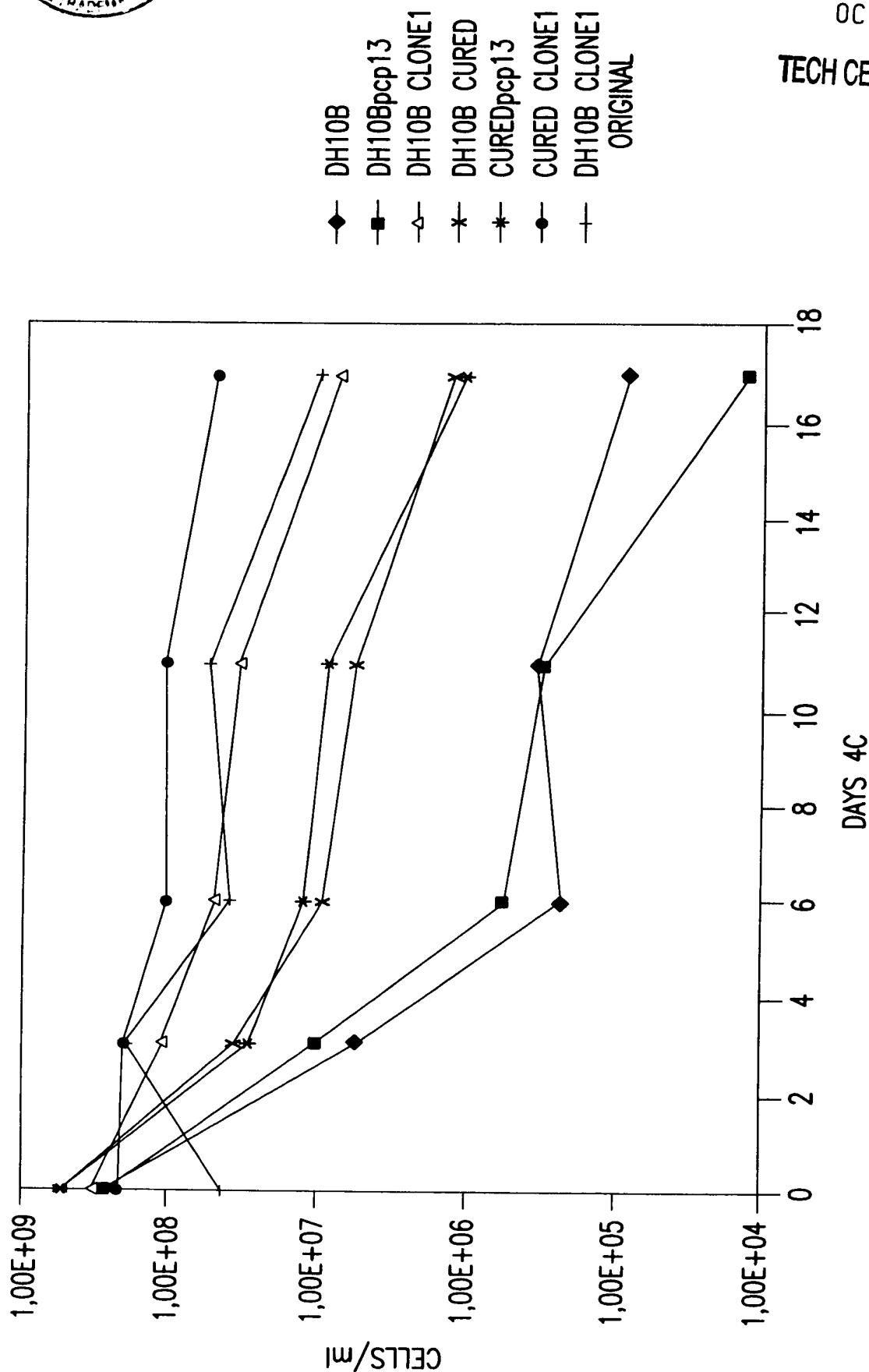


FIG.5



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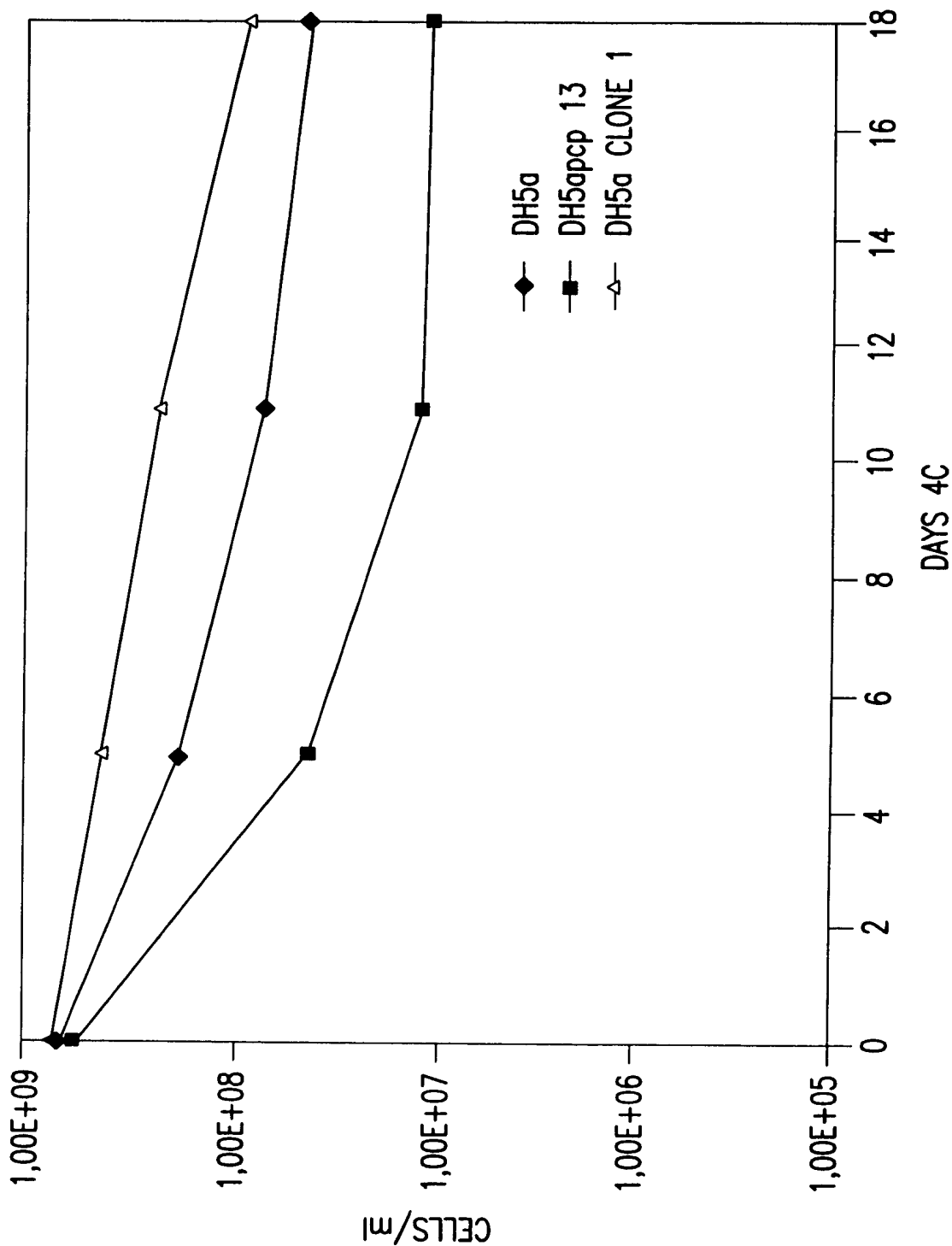


FIG. 6A



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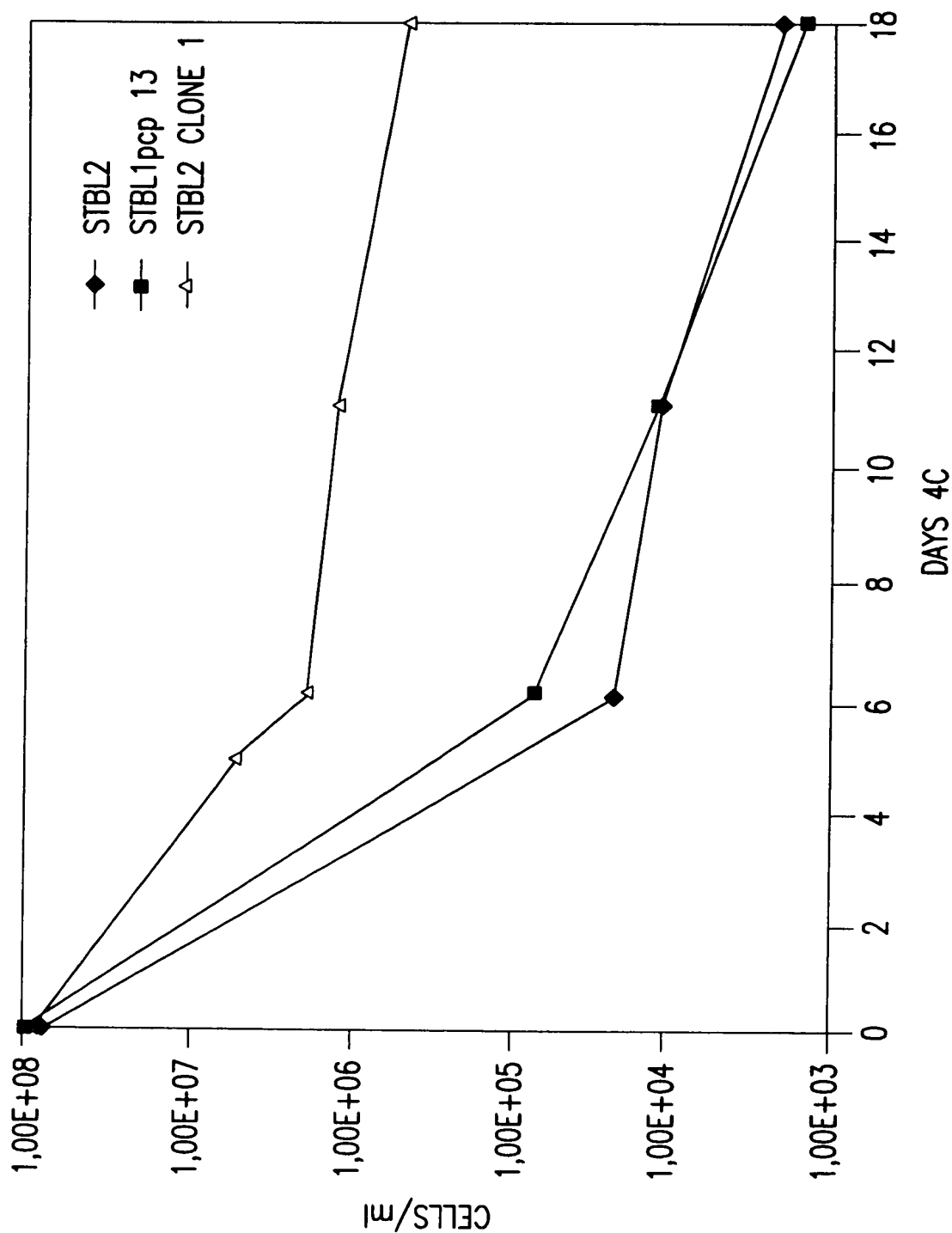


FIG.6B



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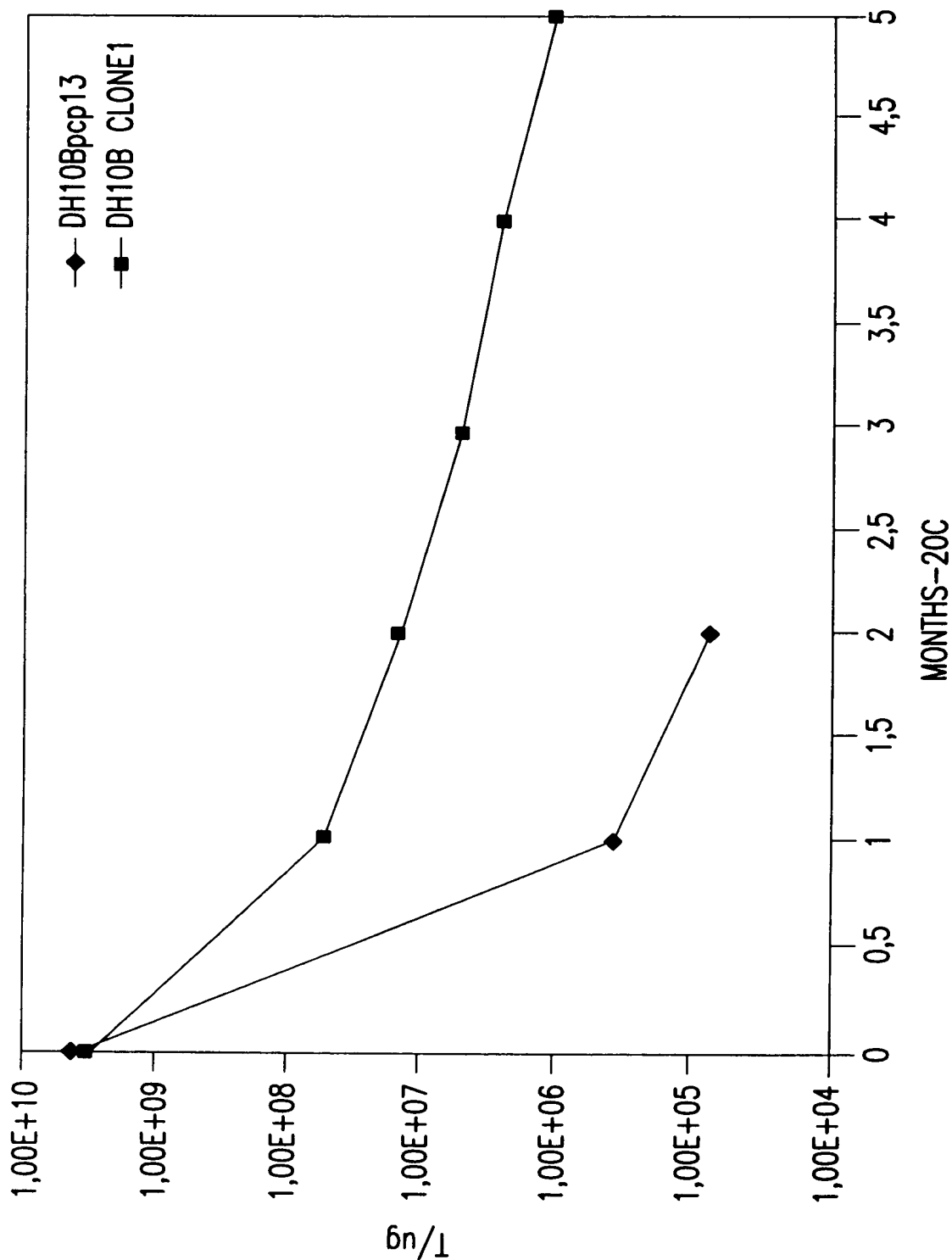


FIG.7



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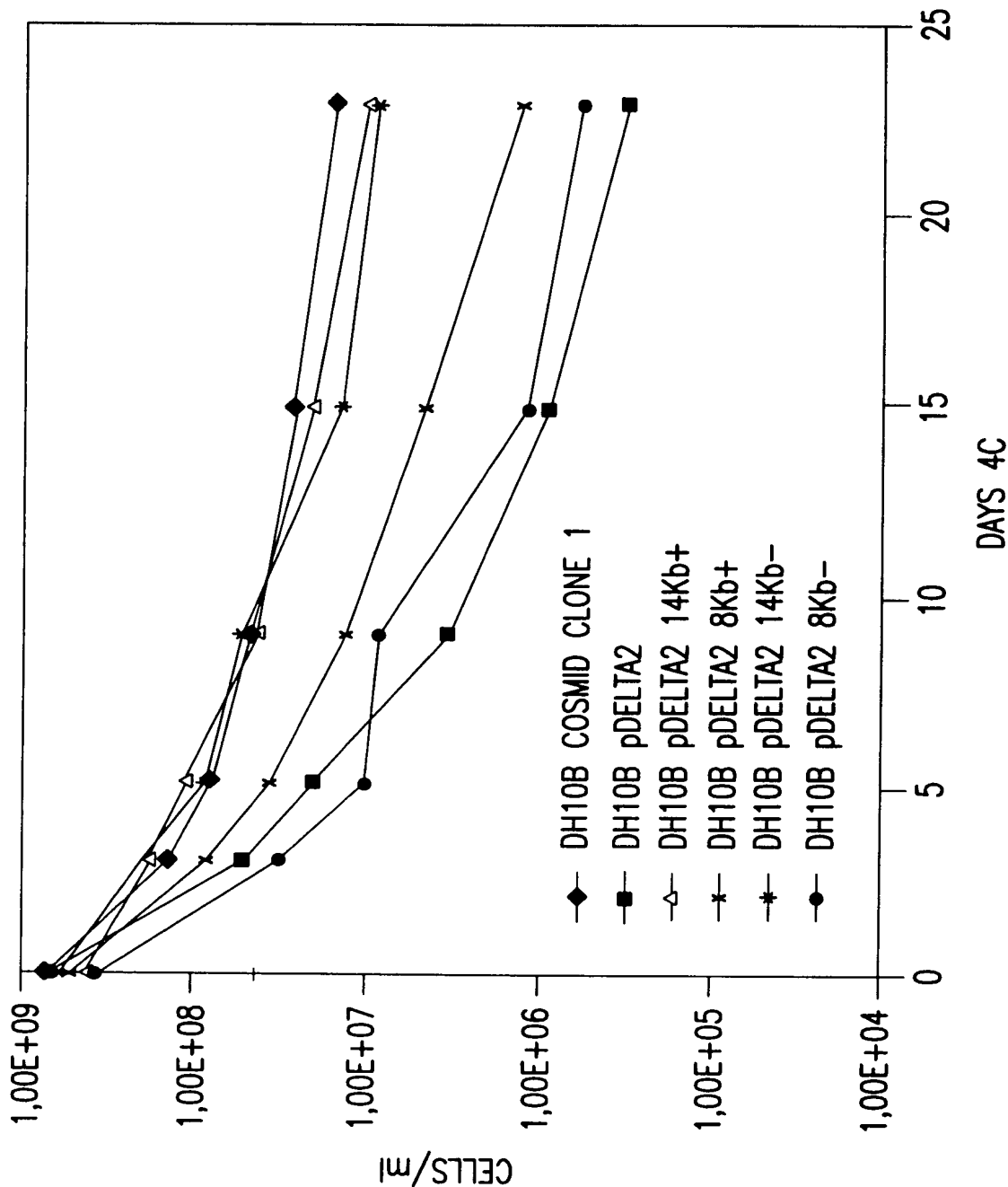


FIG.8



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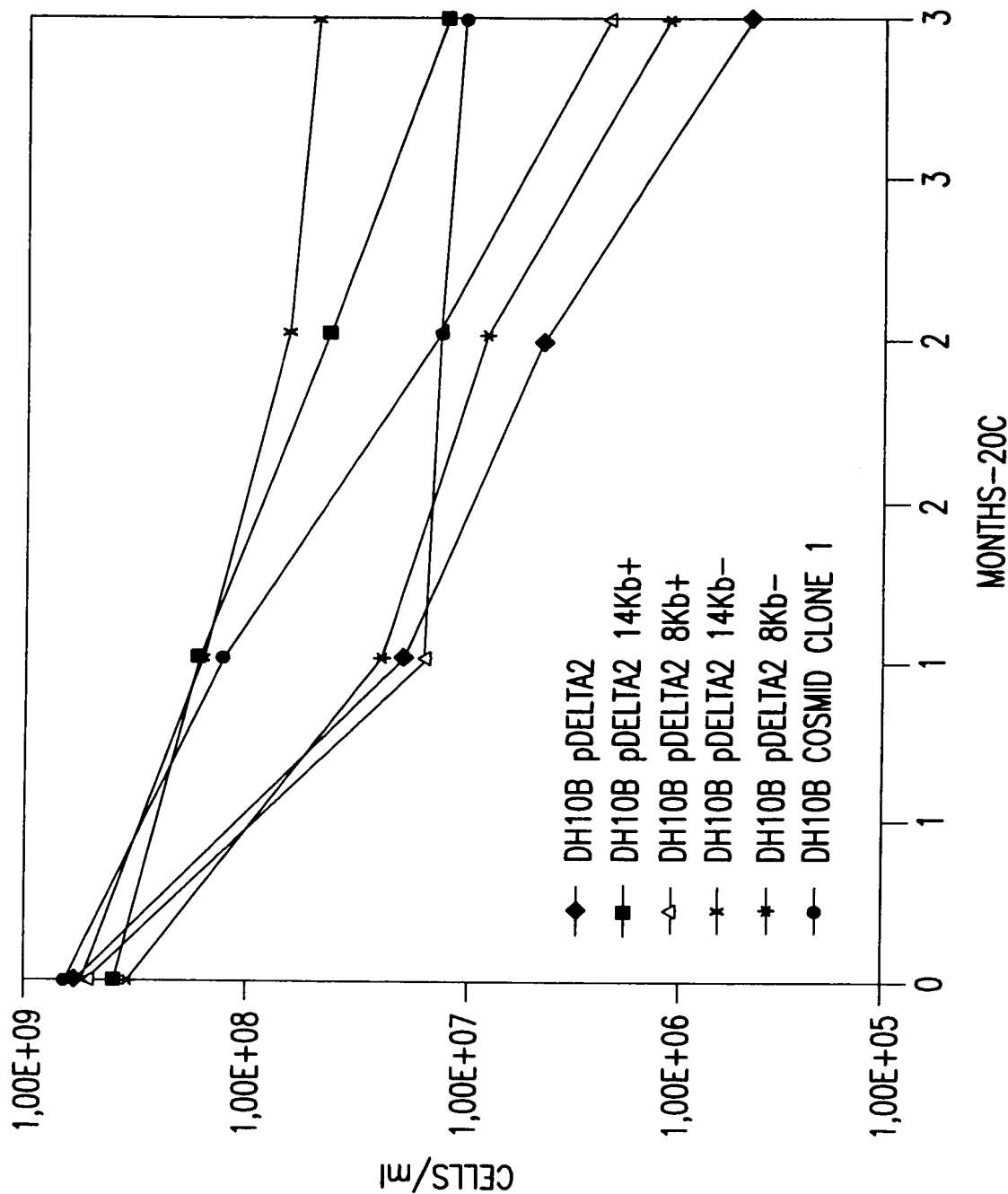


FIG.9



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DH10B pDELTA2 14Kb+ 14Kb-
 DH10B pDELTA2 14Kb+ 14Kb-
 DH10B pDELTA2 14Kb+ 14Kb-
 #14 #16 #18 #19 #23 #27 #28 #29 #32 #33 #34

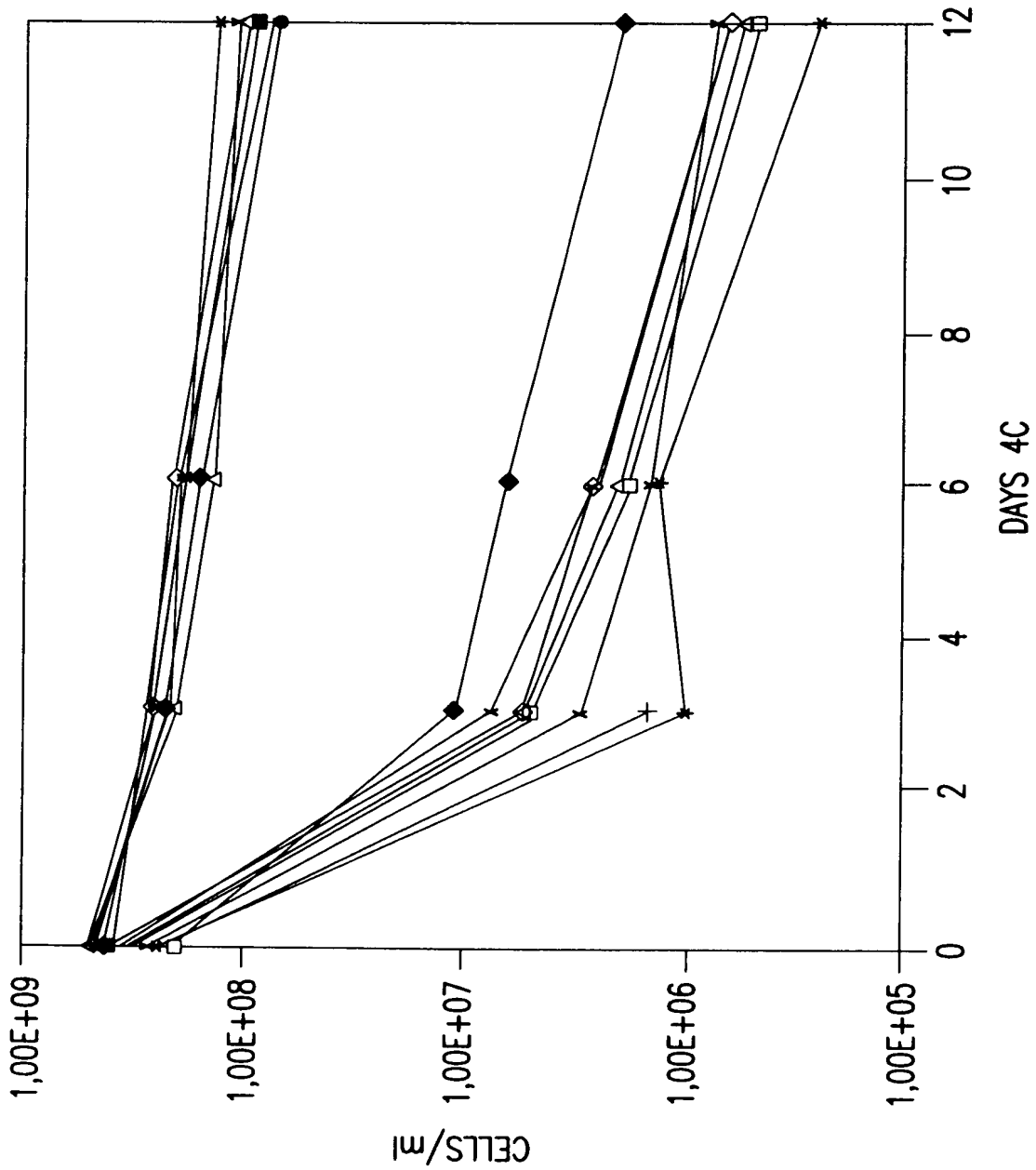


FIG.10



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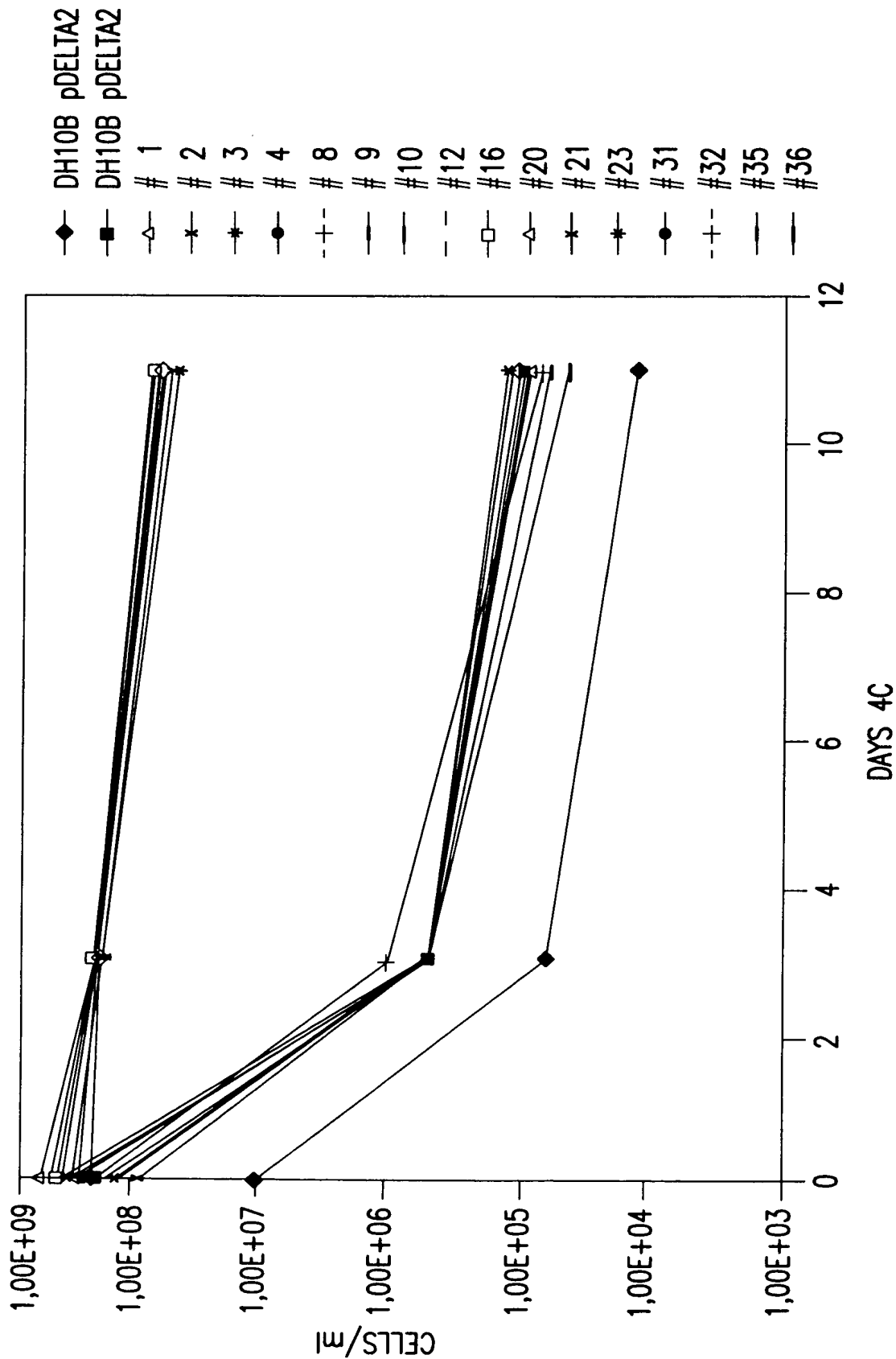


FIG. 11

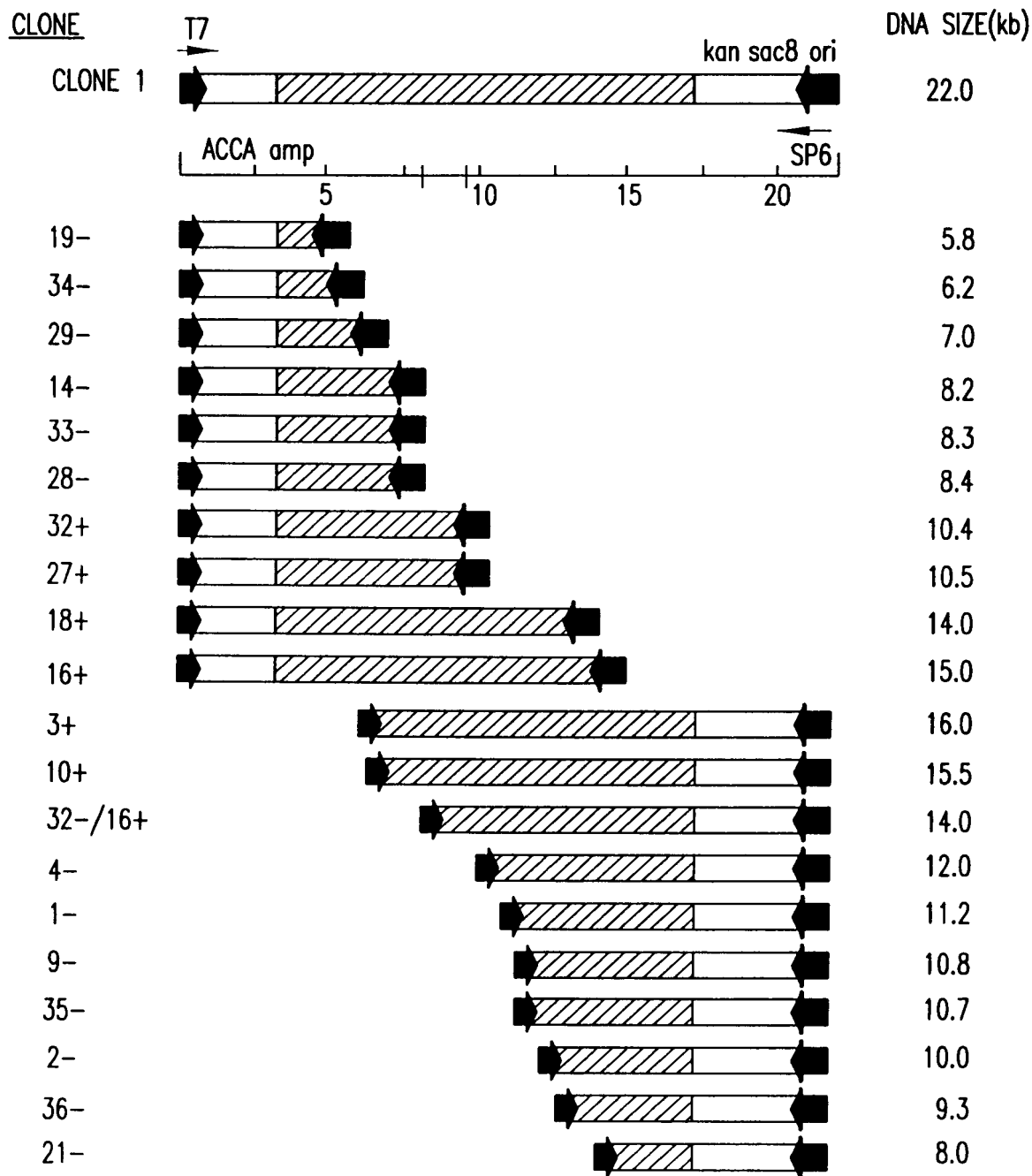


FIG.12



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CGTAGNTTTCGTTNCATTGGCCCTCAAACCCCTAATAGCGCCAGCGACAA 50
CAACGCGCTGGCAATACCACCGCCGATAATCGCCGCTTCCCGTTTGCTGC 100
TGCCCGTGCGGTAAACCACGGCGCGGAGCAGGGGAGCGGTAATGTCTGT 150
TCCATCACCCCGCAAAGCATTTCGCGTTTGGCGCCAAAGCCCTTACGTTT 200
TTGCATCGTGAATCCGGCGTCCTGCAAACCGCGGCGGACAAAACCGGCAG 250
ACGTAAATGTCGCCAGCGTGCCGCCCGGACGCGCCAACCTTGCCATGGCG 300
TTAAACAGATTTTTCGTCCACATATCCGGGTTTTTCGCTGGCGCAAAGCC 350
GTCCAGAAACCAGGCATCTACTTTTTGATTTAGCGAATCGTCCAGTTGGC 400
TGGTCAGTTCGTTAATATCGCCAAACCATAAATCCAGCGTCACGCGGCCT 450
TCATCGAGCAATAAACGATGGCAACCGGGCAAGGGCATTGGCCACTGCGC 500
CTGAAGTTGTTCTGCCCACGGAGCCAGTTCGGGCCAGTGTTGATGCGCTA 550
AGGCTAAATCCGCACGGGTGAGGGGAAATTTCTCAAAACTAATGAAATGT 600
AAGCGTTGTAATTGCGCTTGCGGATGCGCTTCGCGAAACTGATCAAATGC 650
CTGCCATAGCGTCAGGAAGTTTAATCCGGTGCCGAAGCCGCTCTCTGCTA 700
CCACAAACAGAGGATGTGGATGCTCAGGAAAGCGTACCTCTAATTGGTTG 750
CCTCCCAGAAAAACATAACGCGTCTCTTCCAGCCCGTTATCGTTGGAAAA 800
ATAGACATCGTCAAAATCTCGGGAAACAGGTGTACCCTCAGCATTAAATT 850
CGAGGTTGGCAGGTTGTATGGAGTAGTGTTTCACGTAAGTTACTCGTCTT 900
ACAGGCGGTGGCTCGATCTTAGCGATGTGTGTAAGGCTGCGCAAATTTCT 950
CTATTAAATGGCTGATCGGACTTGTTCCGGCGTACAAGTGACGCTATTGT 1000
GCATTCGAAACTTACTCTATGTGCGACTTACAGAGGTATTGAATGAAACG 1050
TGCAGTGATTACTGGCCTGGGCATTGTTTCCAGCATCGGTAATAACCAGC 1100
AGGAAGTCCTGGCATCTCTGCGTGAAGGACGTTTCAGGGATCACTTTCTCT 1150
CAGGAGCTGAAGGATTCCGGCATGCGTAGCCACGTCTGGGGCAACGTAAA 1200
ACTGGATACCACTGGCCTCATTGACCGCAAAGTTGTGCGCTTTATGAGCG 1250

FIG. 13A

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ACGCATCCATTTATGCATTCTTTCTATGGAGCAGGCAATCGCTGATGCG 1300
GGCCTCTCTCCGGAAGCTTACCAGAATAACCCGCGCGTTGGCCTGATTGC 1350
AGGTTCCGGCGGGCGGCTCCCCGCGTTTCCAGGTGTTCCGGCGCTGACGCAA 1400
TGCGCGGGCCCGCGCGGCTGAAAGCGGTTGGCCCGTATGTGGTCACCAAA 1450
GCGATGGCATCCGGCGTTTCTGCCTGCCTCGCCACCCCGTTTAAAATTCA 1500
TGGCGTTAACTACTCCATCAGCTCCGCGTGTGCGACTTCCGCACACTGTA 1550
TCGGTAACGCAGTAGAGCAGATCCAACGGGCAAACAGGACATCGTGTTT 1600
GCTGGCGGGCGGCGAAGAGCTGTGCTGGGAAATGGCTTGCGAATTCGACGC 1650
AATGGGTGCGCTGTCTACTAAATACAACGACACCCCGGAAAAAGCCTCCC 1700
GTACTTACGACGCTCACCGTGACGGTTTCGTTATCGCTGGCGGGCGGCGT 1750
ATGGTAGTGTTGAAGAGCTGGAACACGCGCTGGCGCGTGGTGCTCACAT 1800
CTATGCTGAAATCGTTGGCTACGGCGCAACCTCTGATGGTGACAGACATGG 1850
TTGCTCCGTCTGGCGAAGGCGCAGTACGCTGCATGAAGATGGCGATGCAT 1900
GGCGTTGATACCCCAATCGATTACCTGAACTCCACGGTACTTCGACTCC 1950
GGTTGGCGACGTGAAAGAGCTGGCAGCTATCCGTGAAGTGTTCCGGCGATA 2000
AGAGCCCGGCGATTTCTGCAACCAAAGCCATGACCGGTCACTCTCTGGGC 2050
GCTGCTGGCGTACAGGAAGCTATCTACTCTCTGCTGATGCTGGAACACGG 2100
CTTTATCGCCCCGAGCATCAACATTGAAGAGCTGGACGAGCAGGCTGCGG 2150
GTCTGAACATCGTGACCGAAACGACCGATCGCGAACTGACCACCGTTATG 2200
TCTAACAGCTTCGGCTTCGGCGGCACCAACGCCACGCTGGTAATGCGCAA 2250
GCTGAAAGATTAATTCCGAGTAGGTGCGAGTAGACGCGCCAGCCTCGCAT 2300
CCGACGTTACGCGCCAATGCGGCCTCCGGCACTAACGCAAAGGGAACCT 2350
GATGGTTCCCTTTTTCACATCATTGACAATCGCCGCCAGTTCCAGGCAAA 2400
CTTCCCGCTTTGTGATTTCTTCTGAAAAGACGTACGCGTTAAATCCTG 2450
CCAACGCACCGTAACCCTGAAACCAGAGAGATGAGACGGGGATACTCCTC 2500

FIG. 13B



Sheet 17 of 32

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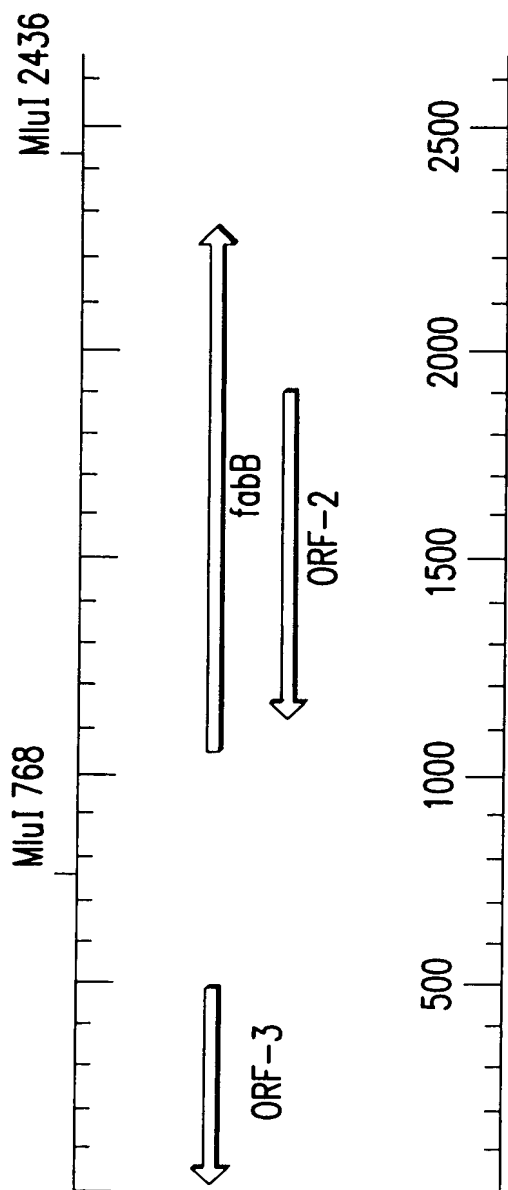
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AACACGATCTTTCTGCCAATTTTTCGCTYTTTCCGCATCGCTTTTTGCGG 2600
TTTTTCTTCACCTACATGACCCGTAGGGTTGCCGTTGCCGGTTATCCCGC 2650
TGTTTGTT 2658

FIG.13C



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090396FA.SEQ (2658 bps)

FIG.14



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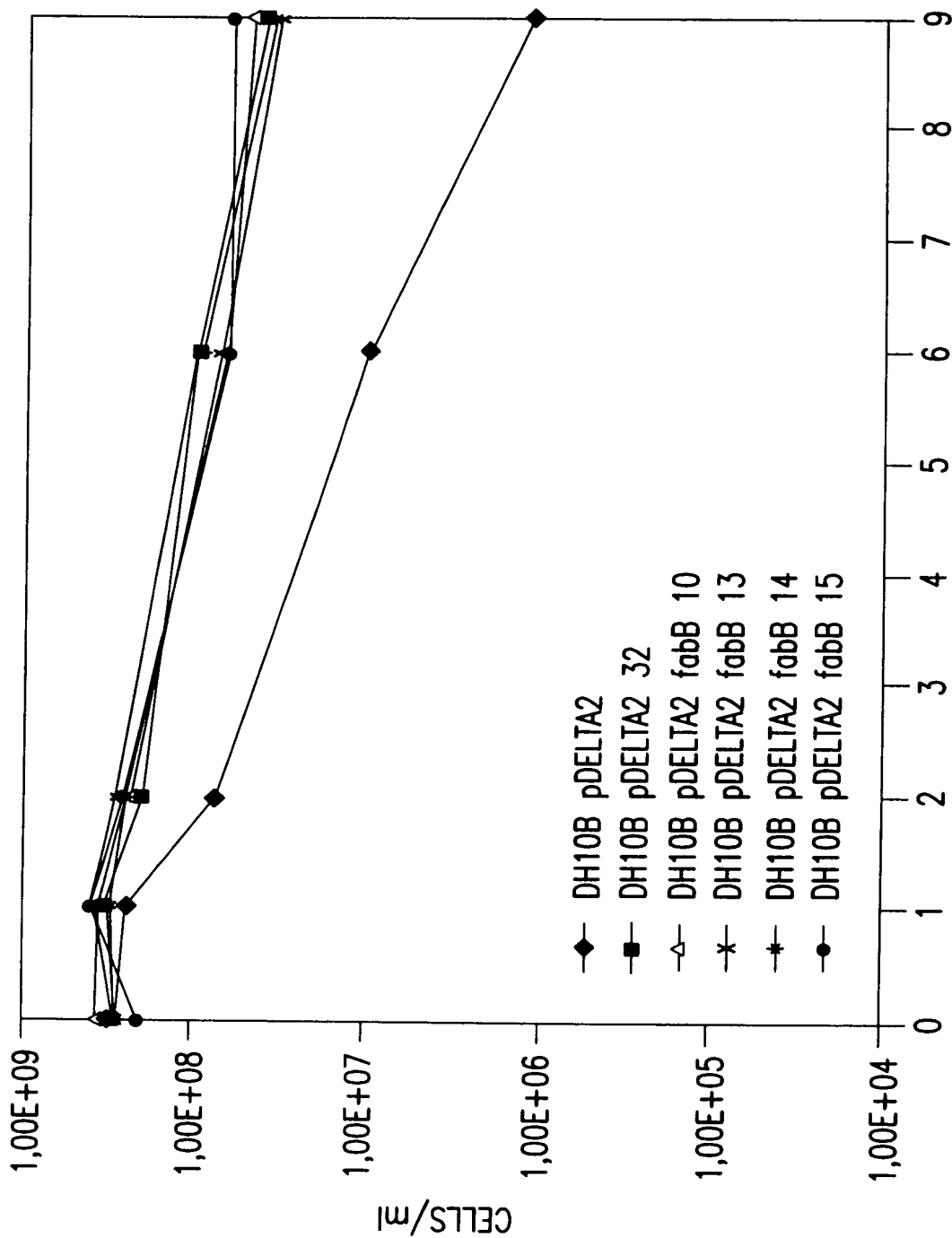


FIG. 15



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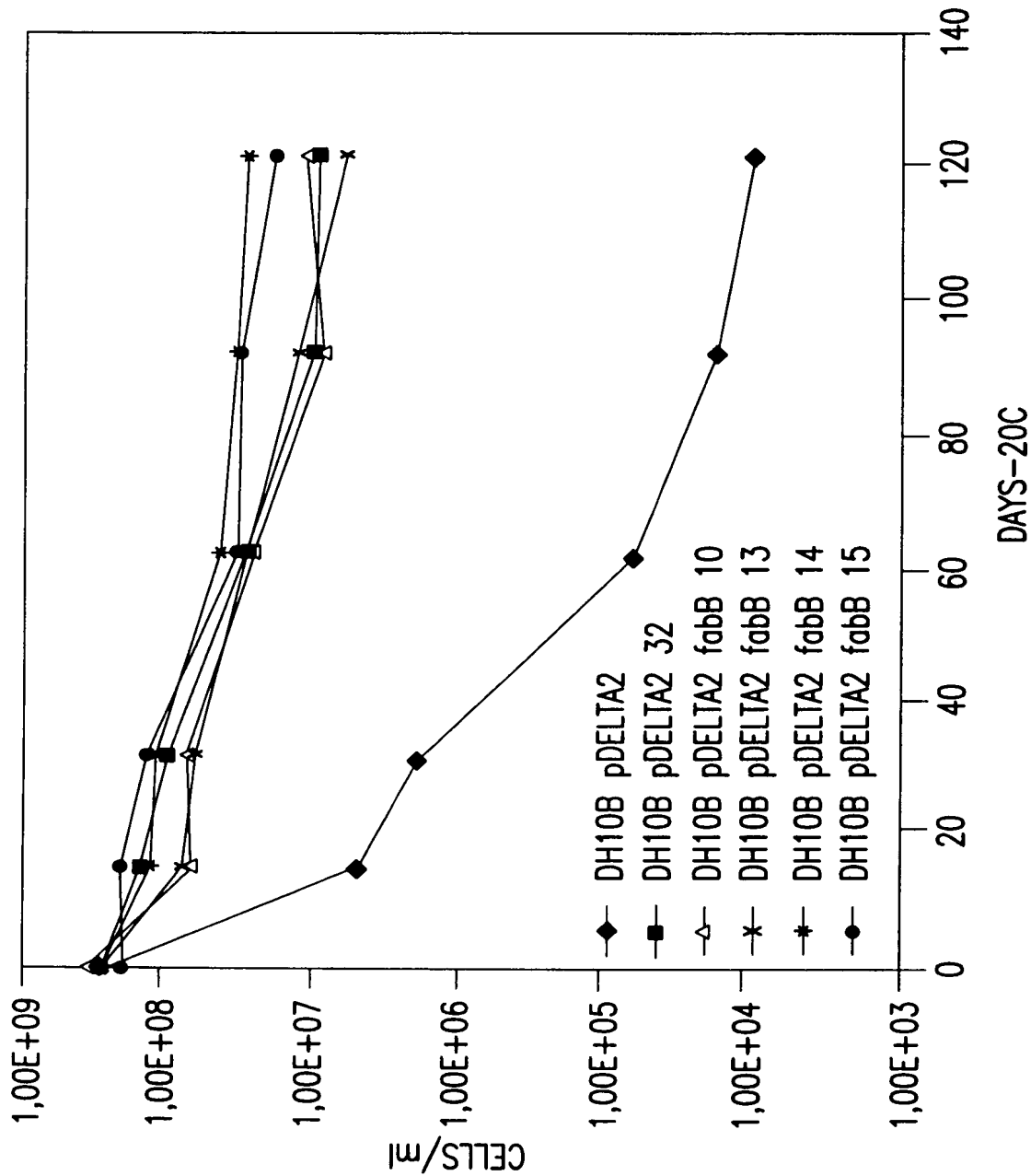


FIG.16



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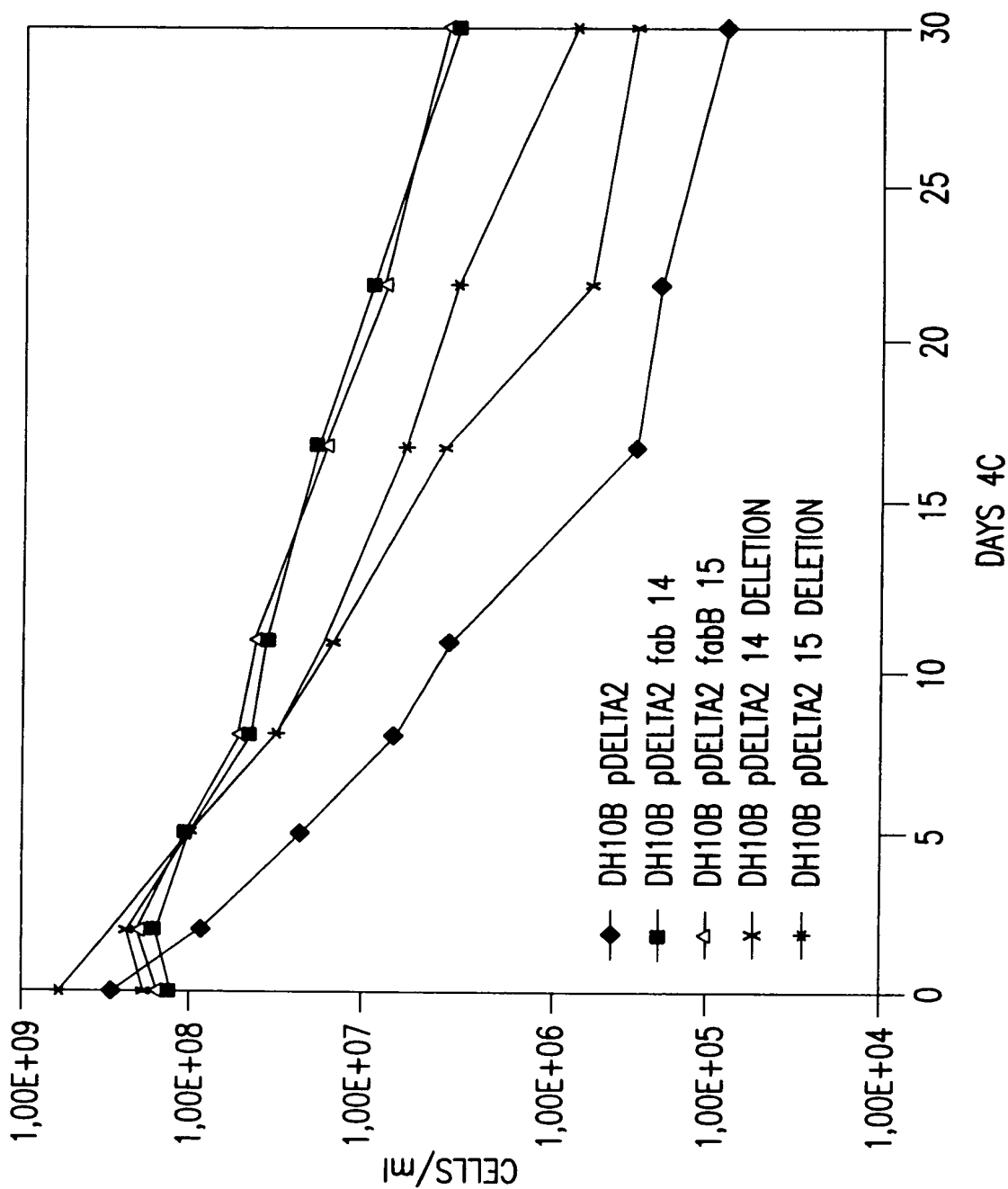


FIG.17



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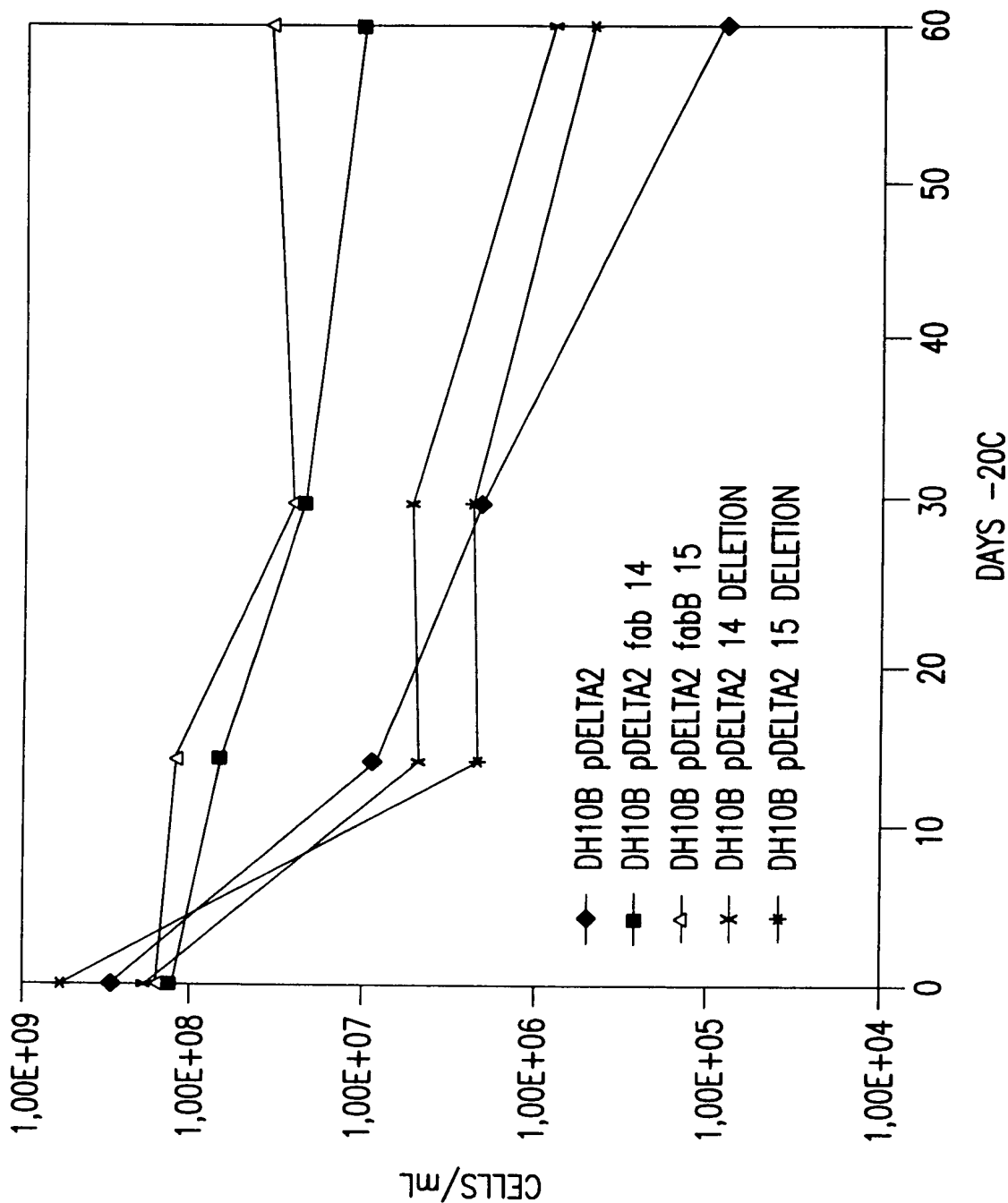


FIG.18



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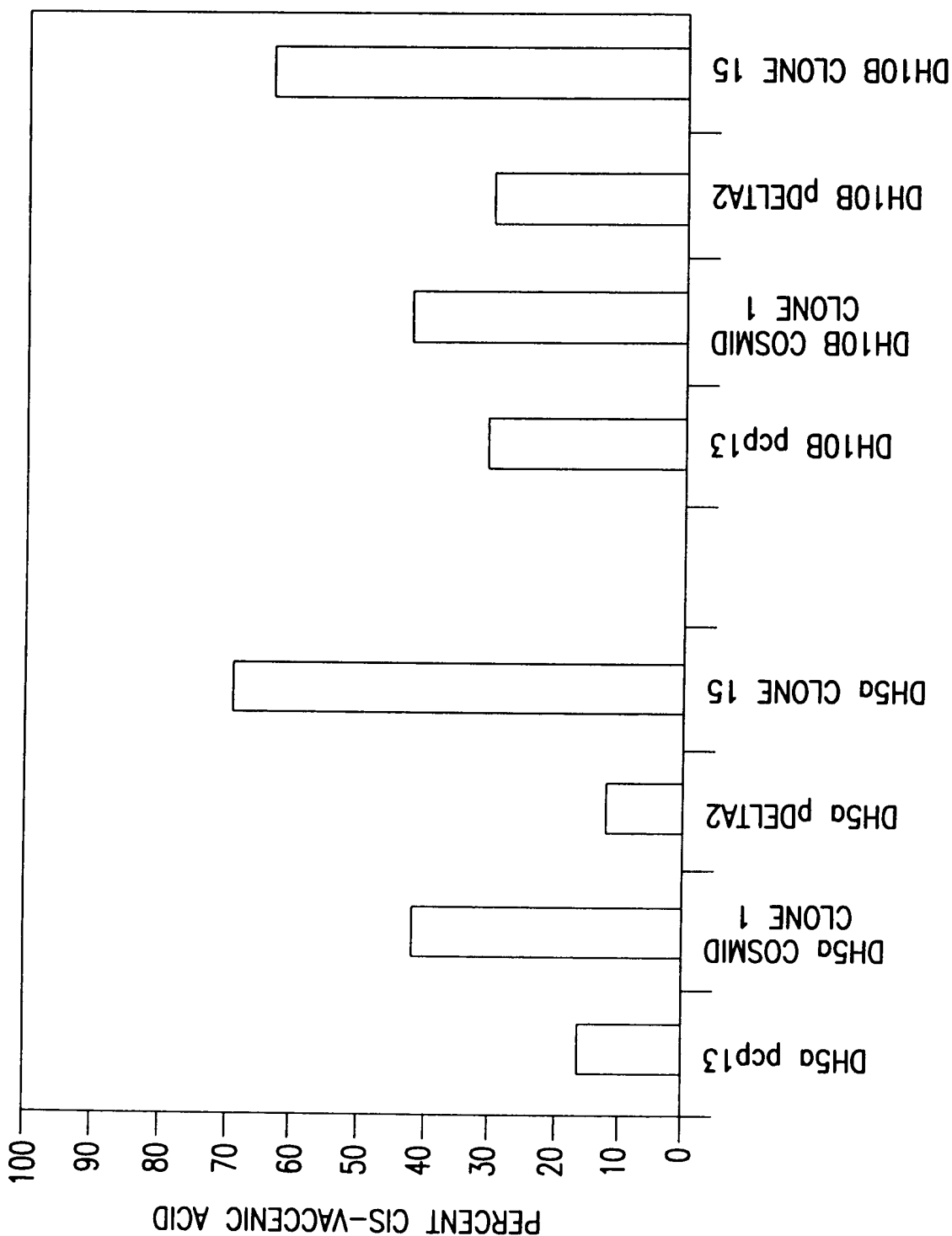


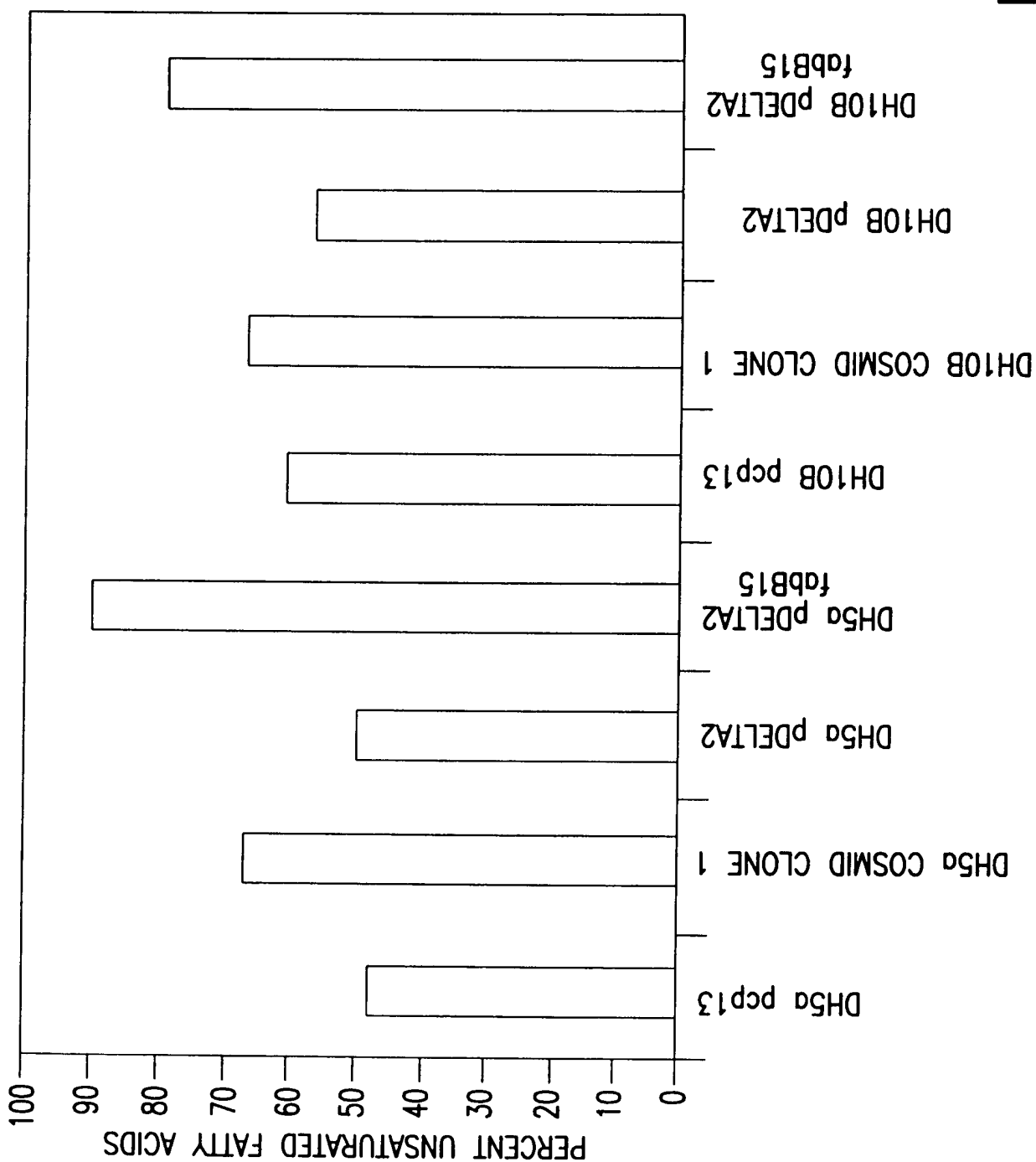
FIG.19



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FIG. 20





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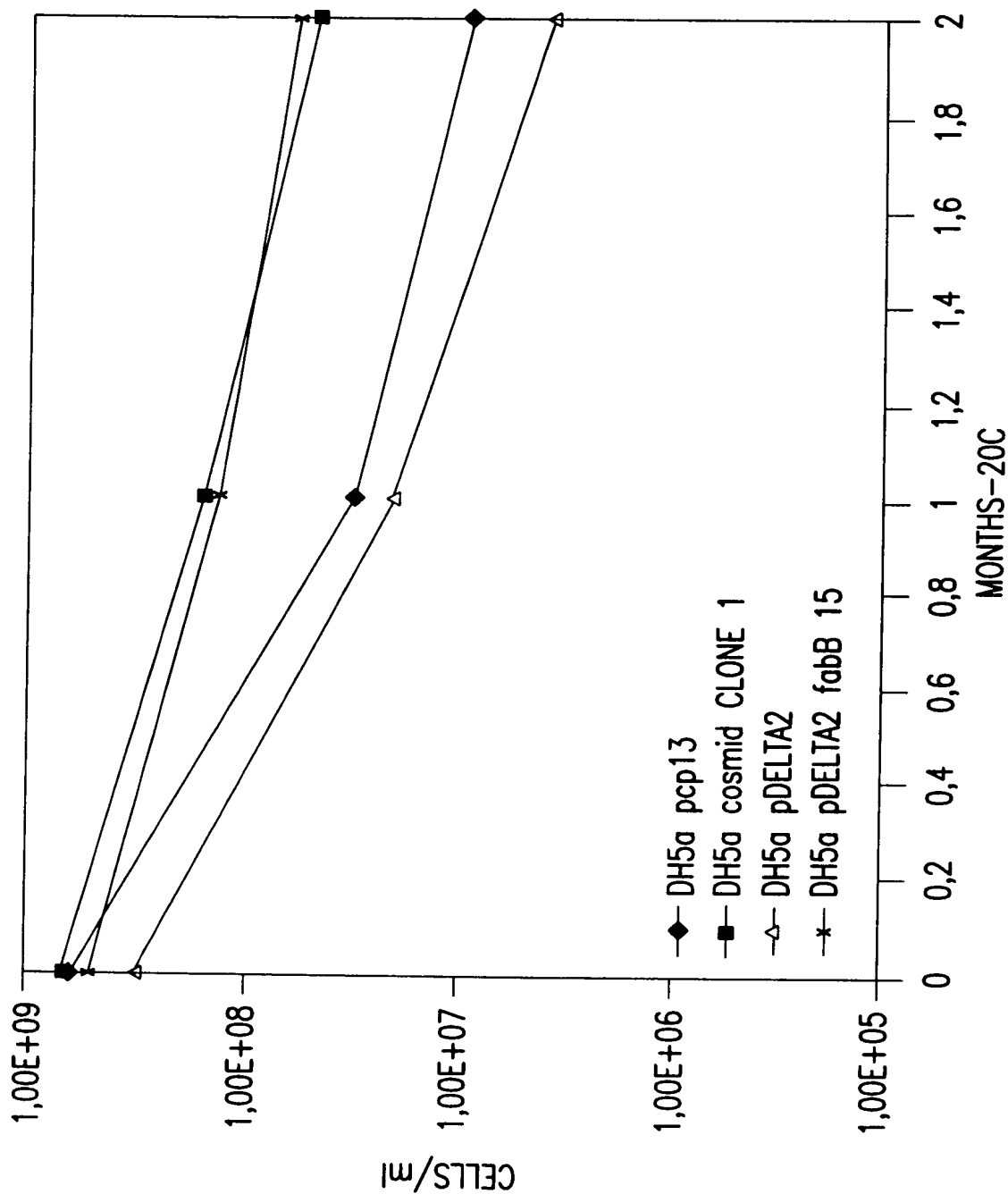
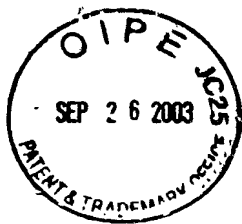


FIG.21



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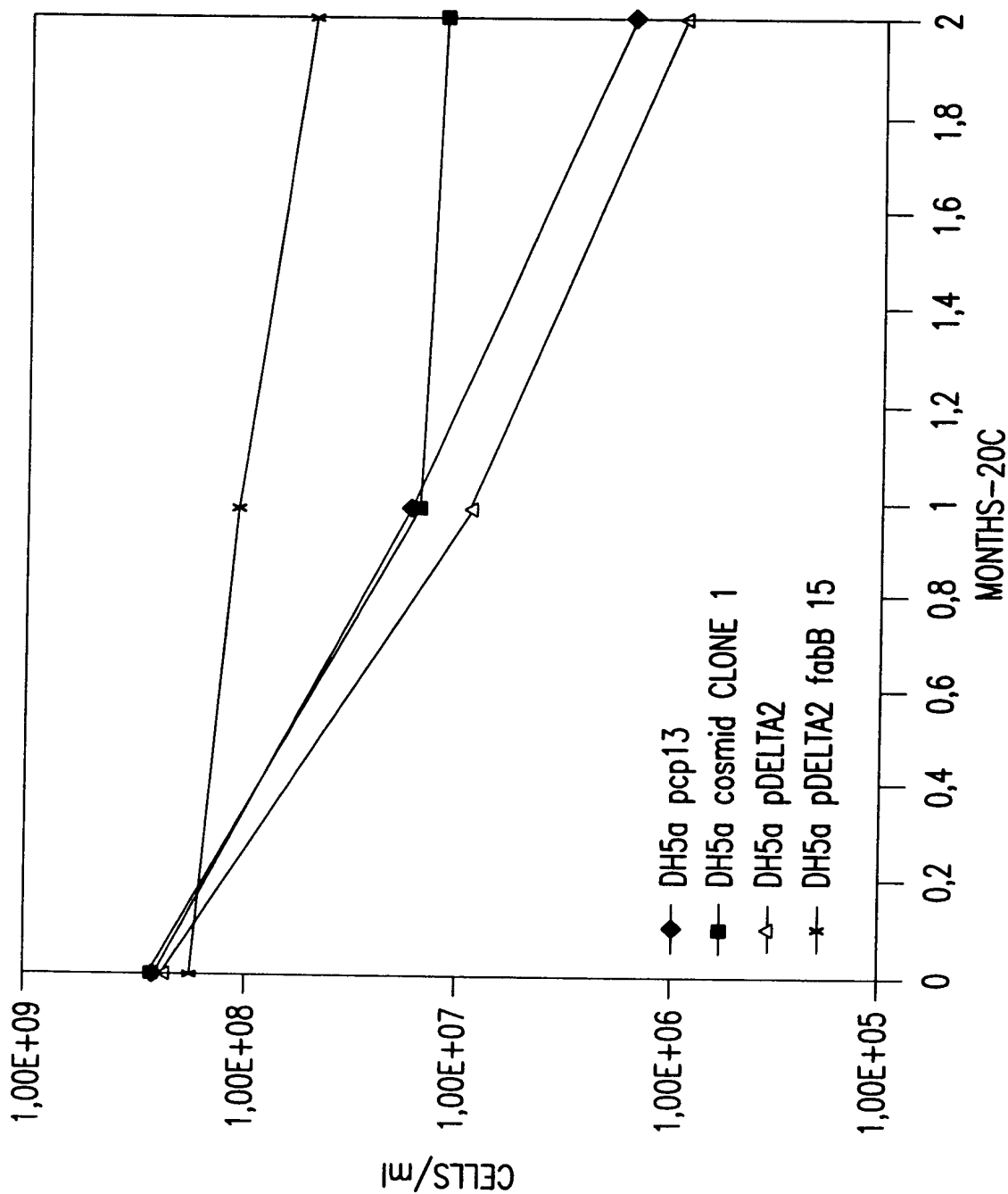
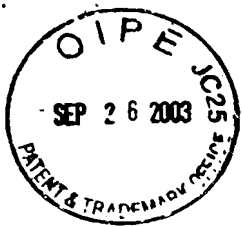


FIG.22



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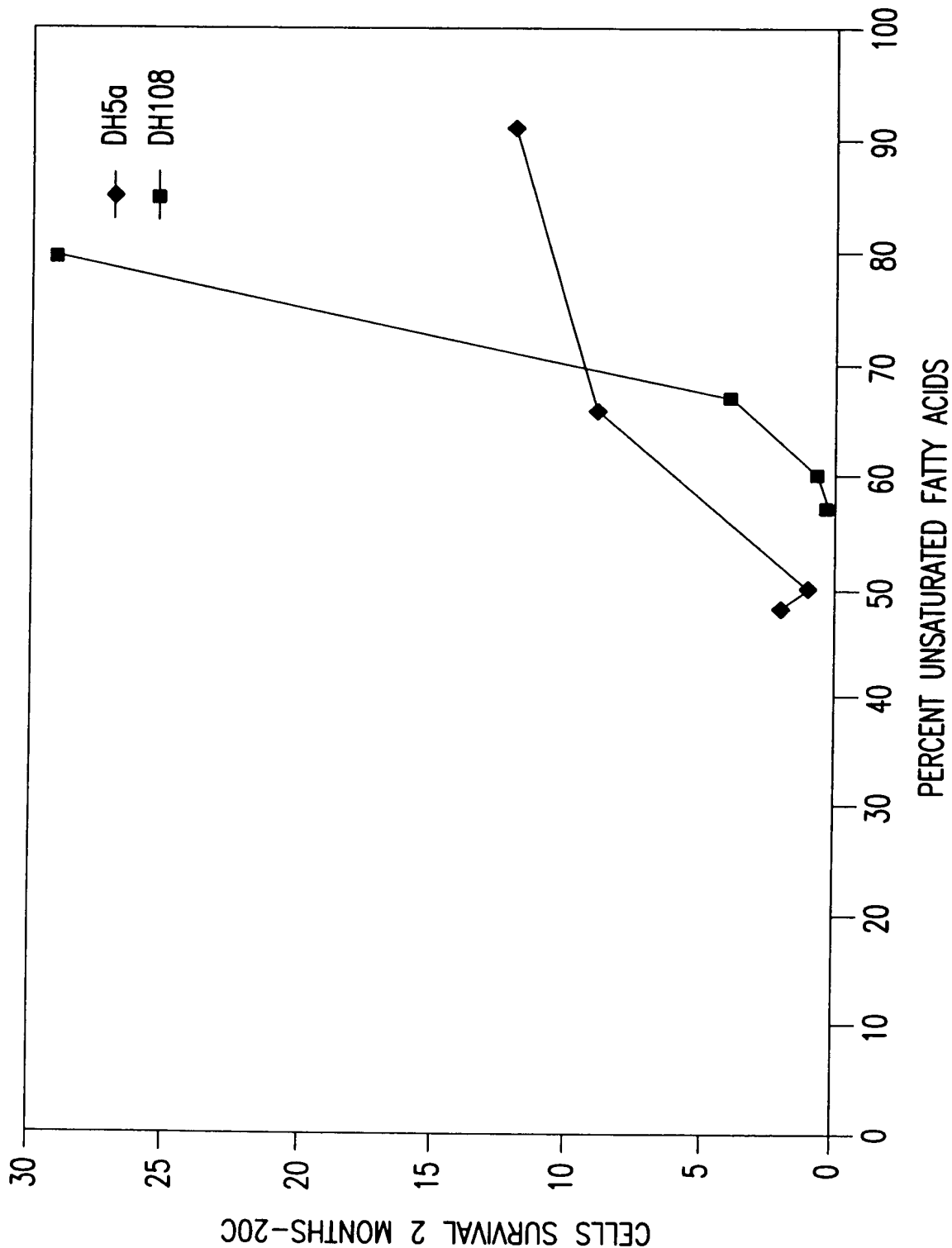


FIG. 23



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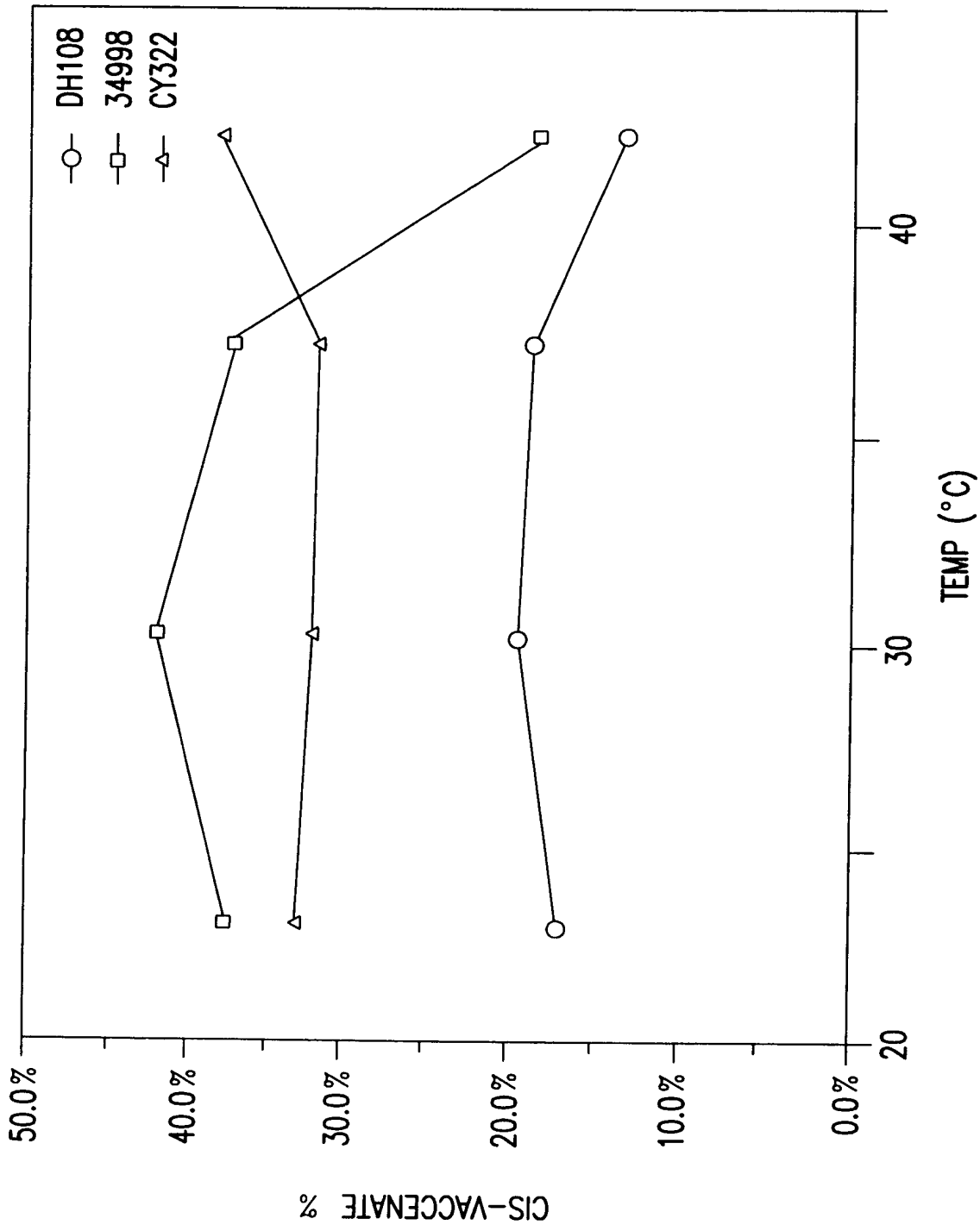
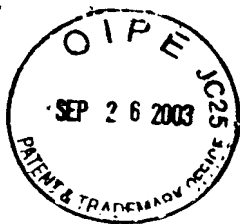


FIG. 24



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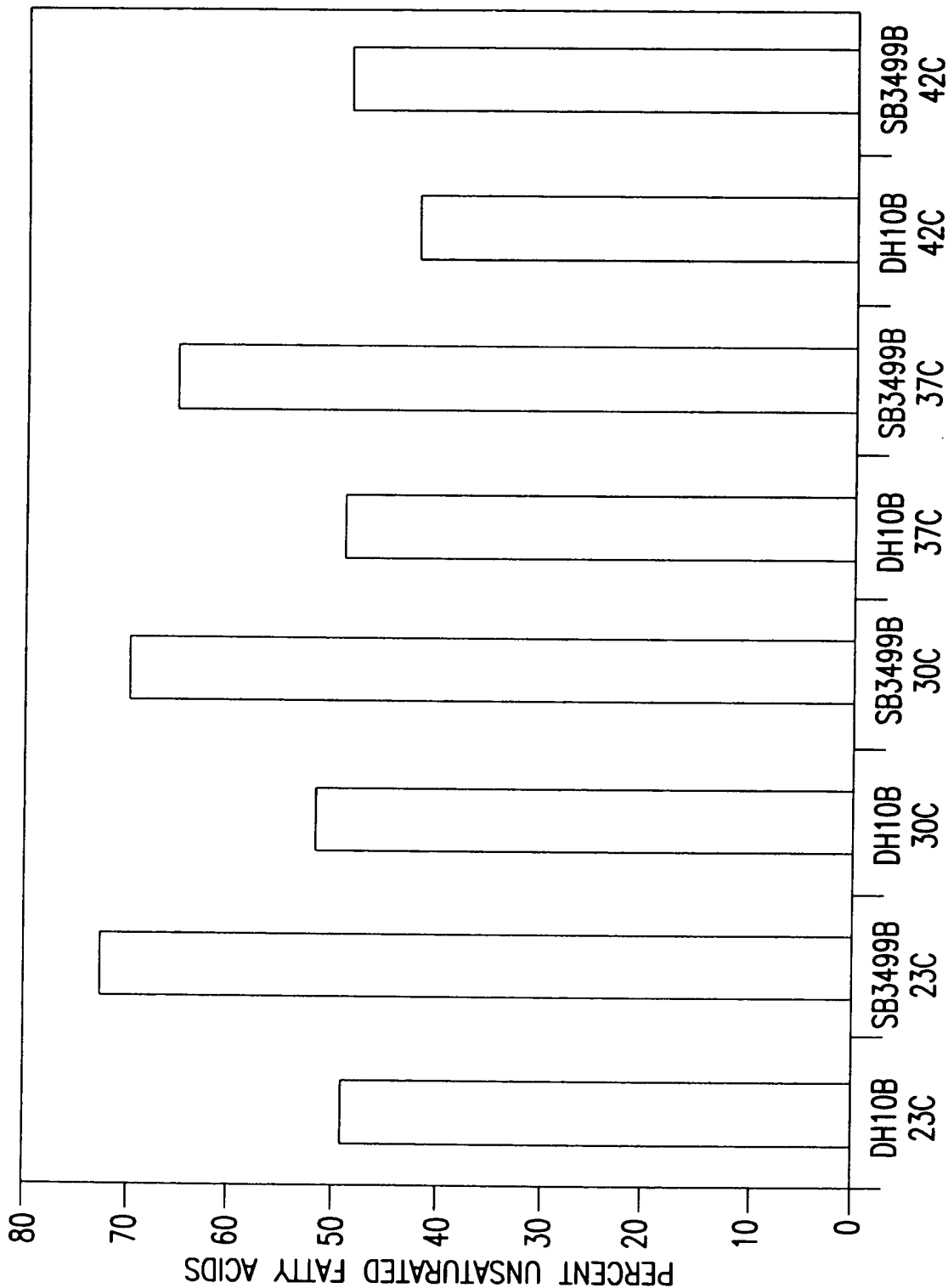


FIG.25



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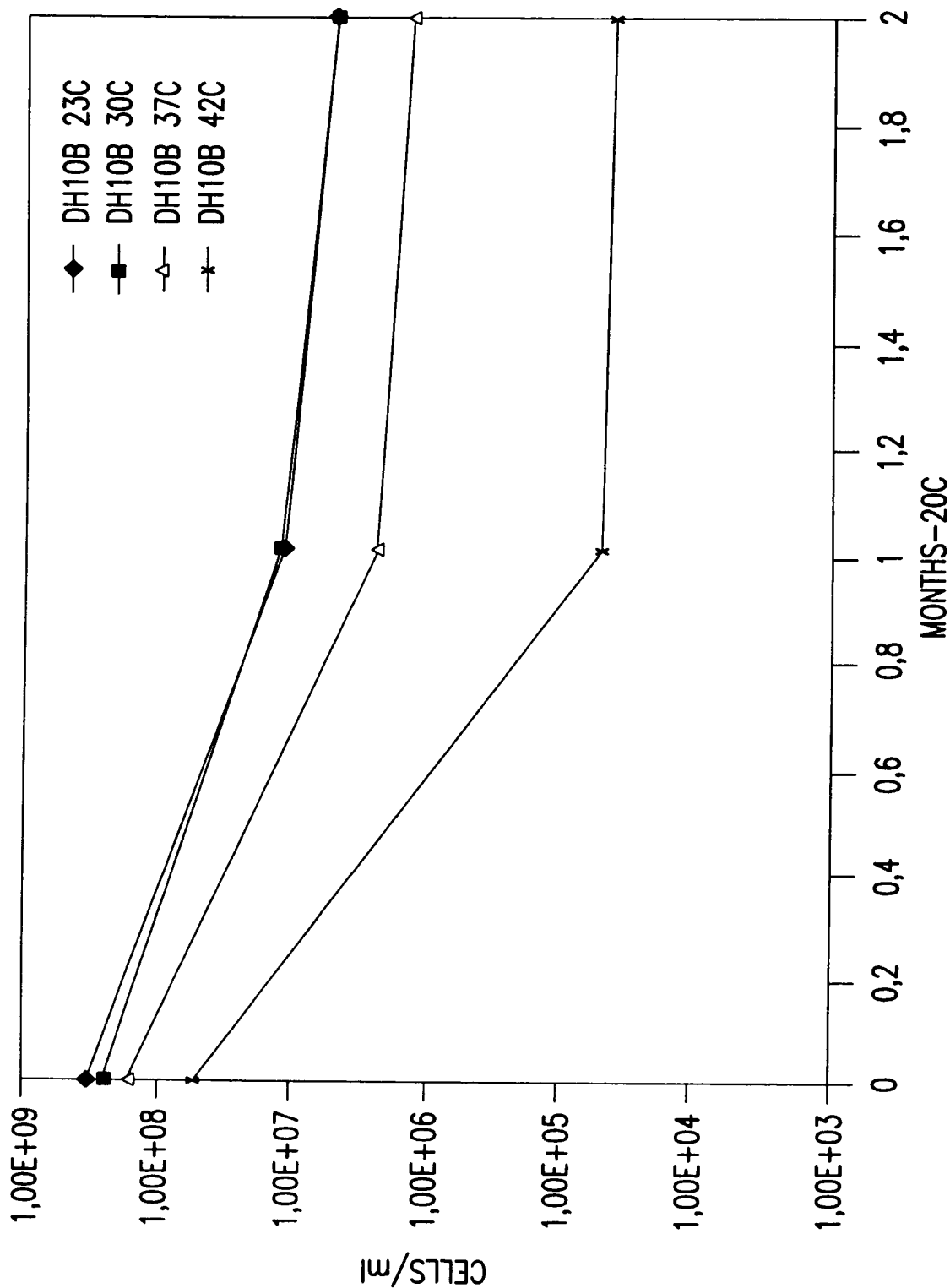


FIG.26



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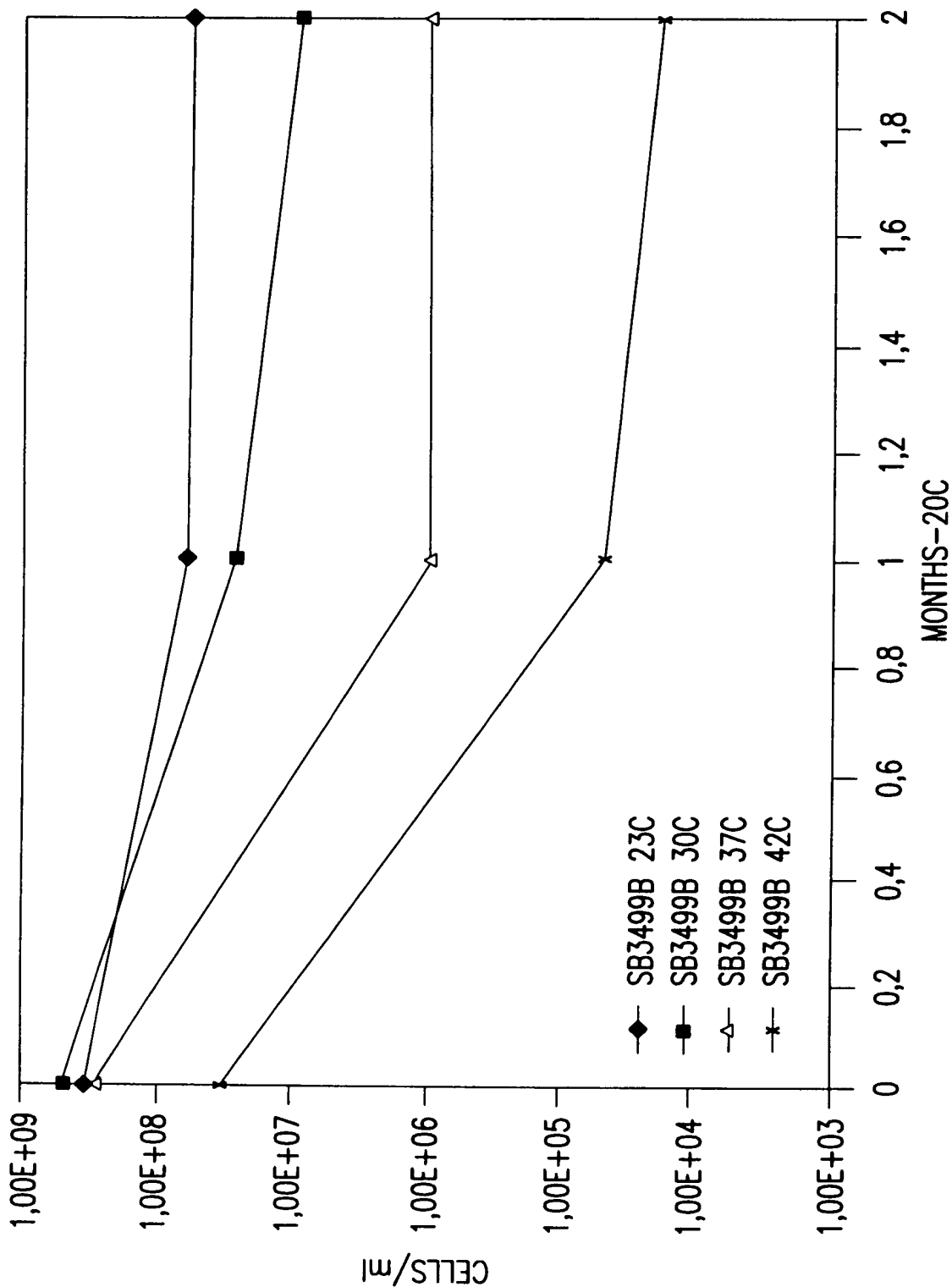


FIG.27



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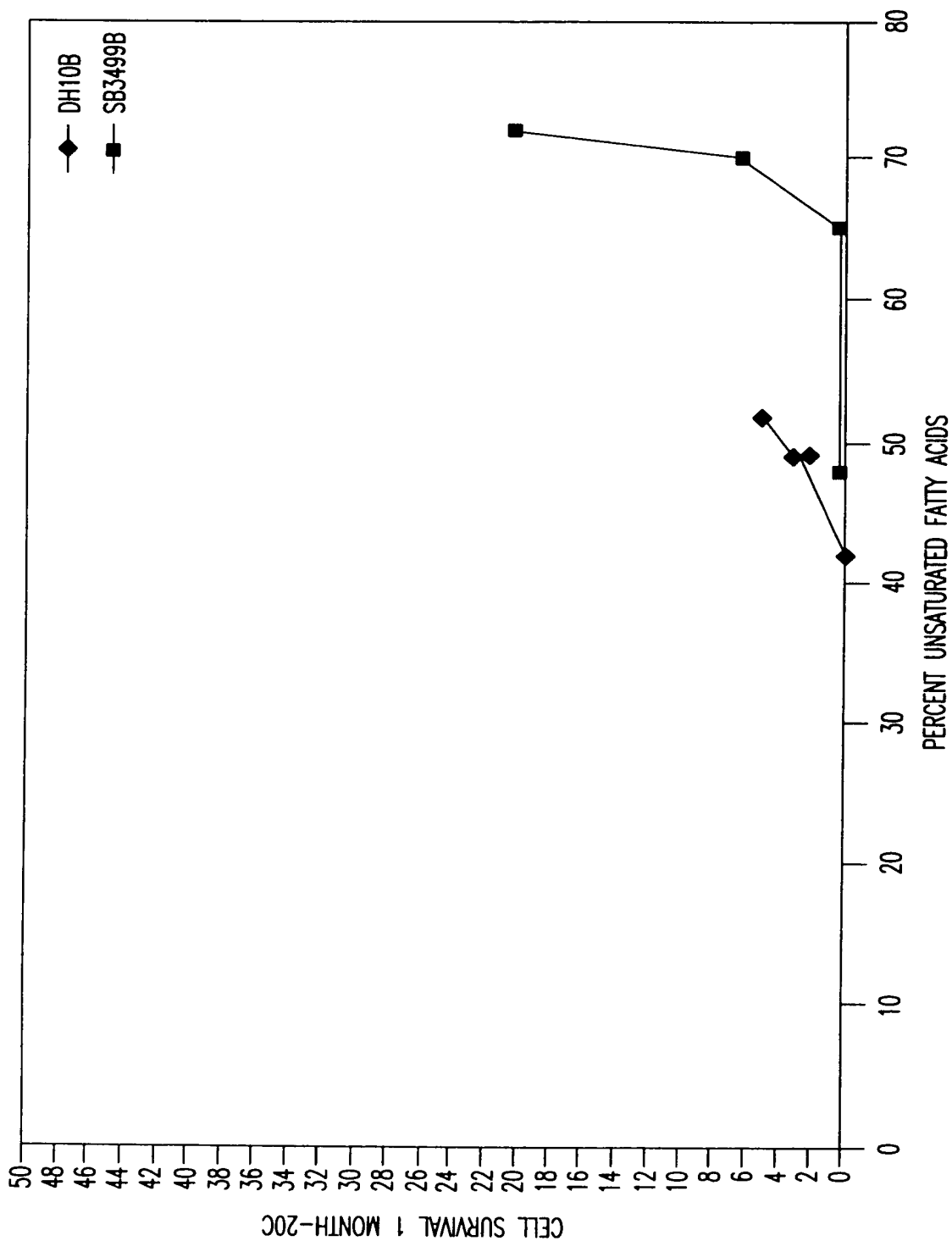


FIG.28